Geoscience quarterly e-zine

Issue 3: Winter 2011

GEOSpectrum

The Geosciences Newsletter

SERVING THE GEOSCIENCES WORLDWIDE

AGI

THE AMERICAN GEOLOGICAL INSTITUTE

Letter from the Editor

The geosciences are an interconnected field. Sometimes we forget how interdisciplinary our science is and get lost in our own specialties. But there are issues and common causes we all face together that unite us.

This issue of GeoSpectrum, while giving us the normal news and updates, also focuses on a few larger overarching themes. Strong and well-rounded geoscience education and being active and involved earth scientists once in the workplace are important no matter your area of expertise. But we all have different ideas about what that means, especially in today's economic climate.

Field camp, while once a right-of-passage to becoming a geoscientist, faces many hurdles including the time and money to complete the course while completing a traditional education and often working full-time. Traditional and non-traditional career paths await at the end of your college education but where exactly are the jobs and how does one find them and become an integral part of the workforce?

Education never truly stops. There are always meetings to attend, committees to volunteer for, and research to be completed. Take the time to read this issue to understand all the opportunities there are to be involved in the earth sciences. Find meetings or courses to attend, new positions to apply for or scholarships you could help support. There are endless ways to be connected to the geoscience community…reading this newsletter is just the first step.

Andrea S. Martin

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SEPM (Society for Sedimentary Geology) (SEPM)
Society for Mining, Metallurgy, and Exploration, Inc. (SME)
The Society for Organic Petrology (TSOP)
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Society of Independent Professional Earth Scientists (SIPES)
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Society of Vertebrate Paleontology (SVP)
Soil Science Society of America (SSSA)
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American Geological Institute
FOUNDATION

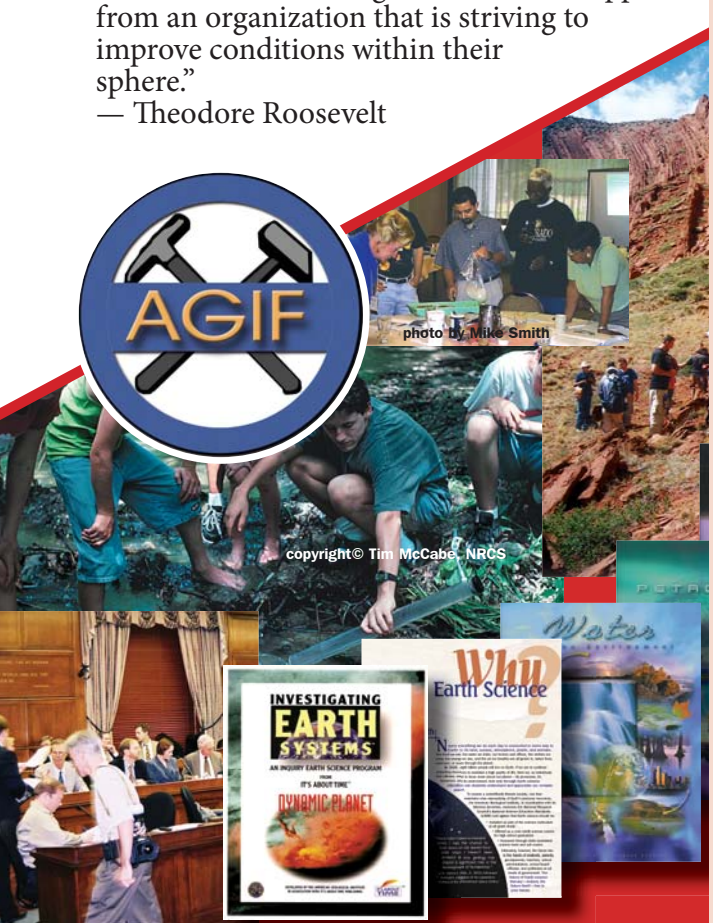
www.agifoundation.org

The AGI Foundation supports programs that assist researchers, educators, policy-makers, and young people — the geoscientists and informed citizens of tomorrow. Invest in the geosciences by supporting the AGI Foundation's efforts.

Some of the programs the AGI Foundation is working to fund are the following:

- ❍ Develop national geoscience curricula.
- ❍ Support a national teacher enhancement program.
- ❍ Establish a Congressional Geoscience Fellowship endowment.
- ❍ Produce environmental geoscience publications.
- ❍ Develop web-based training materials for geoscience students and professionals.

"Every person owes part of one's time and money to the business or industry to which one is engaged. No one has a moral right to withhold support from an organization that is striving to improve conditions within their sphere."
— Theodore Roosevelt



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AGI Releases Glossary of Geology App

The American Geological Institute's (AGI) Glossary of Geology, 5th Edition is now available for the iPhone, iPod Touch, and iPad in Apple's App Store. The Glossary of Geology app brings all 40,000 authoritative definitions of the vocabulary of the geosciences to an easy-to use, searchable, fast, and portable format.

Beyond just definitions, users can learn the difference between look-alike pairs, such as sylvanite (a mineral) and sylvinite (a rock); the origin of terms; the meaning of abbreviations and acronyms common in the geosciences; the dates many terms were first used; the meaning of certain prefixes; and the preferred term of two or more synonyms.

The Glossary app enables users to both browse and search the entire glossary. In addition, the complete app is self-contained, so there is no need to be online to use this product – ensuring ready access to key information when you need it, whether in the lab, library, office, or field.

The Glossary app requires an iPhone, iPod Touch, or iPad running iOS 3.2 or later and is compatible on iPhone 4. In addition, the iPad version is optimized for the larger visual experience of that device.

To learn more or purchase the Glossary of Geology app, search for "Glossary of Geology" in the App Store, or visit iTunes at: http://itunes.apple.com/us/app/glossary-of-geology/id398194234 .

The Glossary of Geology App is also eligible for Apple's educational volume discounts. Please contact Apple or your campus licensing office for more information.

Kentucky Section of AIPG hosts Professional Development Program

The Kentucky Section of the American Institute of Professional Geologists (Ky-AIPG) is instituting a Professional Development Program designed to enhance the knowledge and skills of the practicing members of the geologic profession. The topics and the character of presentation of the sessions are designed to be acceptable for Professional Development Credits for those who desire them.

The first offering of this program will be a one-day conference titled "An Overview of Contaminated Site Assessment and Remediation Technology". This conference will be held on Tuesday, April 19 at the Kentucky Geological Survey, Well Sample and Core Library, 2500 Research Park Drive, Lexington, Kentucky 40511. Detailed information on the conference topics can be obtained at the Ky-AIPG website, http://ky.aipg.org/Announcements.htm.

Fees for the workshops in the program are designed to cover the basic expenses of the workshops and allow students and other young professionals as well as more experienced geologists to participate.

Look in the classifieds section of this issue of GeoSpectrum for the event registration form.

Publication Highlights

2010 was a major year in the earth sciences. To keep people up-to-date on the latest research many journals offer highlights from the previous years. Below is a list of societies with their selected journal highlights.

Geological Society of America: http://www.geosociety.org/news/pr/jrnls.htm

GSA's Journal highlights website covers the *GSA Bulletin*, *Geology* and *GSA Today*, *Geosphere*, and *Lithosphere*. Some of their journal highlights provide information dating back to 2001. The November-December 2010 *GSA Bulletin* Highlights features topics from hazard assessment, climate modeling, and geochronology.

American Institute of Professional Geologists: http://www.aipg.org/Publications/TPGPublic.html

Not only does AIPG provide electronic copies of T*he Professional Geologist* (TPG) via PDF, they also provide table of contents for recent issues. Full issues begin with Volume 9, 1972 while the table-of-content previews start in 2004. Selected stories from the latest issue of TPG on pivotal topics such as geoscience career paths and a field camp debate are featured in this issue of GeoSpectrum.

EARTH magazine: http://www.earthmagazine.org/

Stay up-to-date with the latest offerings in *EARTH magazine* by signing up for our media alerts. You'll receive information on the upcoming issues featured articles with links to additional web information. To receive these updates email outreach@agiweb.org with the subject "Request to receive EARTH Media Alerts."

To view previous media alerts for EARTH magazine go to AGI's news page at http://www.agiweb.org/outreach/ .

Reports on Progress in Physics: http://iopscience.iop.org/0034-4885

Reports on Progress in Physics covers all branches of physics including geophysics. Not only can you search past issues, but you can review future article titles.

One recent geoscience-related piece was "Abrupt global events in the Earth's history: a physics perspective" by Gregory Ryskin of the Robert R. McCormick School of Engineering and Applied Science at Northwestern University go to http://iopscience.iop.org/0034-4885/73/12/122801/ .

AGU Launches Blogosphere

The American Geophysical Union (AGU) is proud to announce the launch of a new network of Earth and space science blogs: the AGU Blogosphere. Seven blogs written by established, independent scientist-bloggers, who are now hosted by AGU, cover topics including planetary exploration, landslides, DC-area geology, volcanoes, climate change and more.

The network also features three blogs written by AGU staff and guests. The first of these blogs, AGU Meetings, was launched during the 2009 Fall Meeting. A second blog on science communication, The Plainspoken Scientist, followed and then another that spans the AGU sciences, GeoSpace.

Although AGU has offered its own blogs for nearly a year, we in AGU's Outreach Department also sought new ways to better interact with the thriving, international community of Earth and space science bloggers and recognize their efforts at sharing the wonders of science with the public. Hosting skilled, dedicated, independent scientist-bloggers is one answer.

With this initiative, AGU is recognizing these bloggers' work, helping boost awareness of Earth and space science issues for a wide array of audiences, and providing an online place to discuss all things Earth and space science-related. We look forward to welcoming more, highly respected bloggers to the network in coming months.

Please read our "About" section for further information about the purpose of this network.

Here are the bloggers in the AGU Blogosphere network as we launch:

- David Petley, a professor in the Department of Geography at Durham University, Durham, UK, has been blogging about landslides since 2007 and will continue to do so in The Landslide Blog (previously known as Dave's Landslide Blog).
- Jessica Ball, a Ph.D. candidate in volcanology and volcanic hazards at State University of New York at Buffalo, writes about volcanology, volcanic hazards, and graduate school life at Magma Cum Laude (want to find out about the origin of Jessica's blog's name? She explained it in this post.)
- Dan Satterfield, chief meteorologist for WHNT-TV (CBS) in Huntsville, Ala., blogs at Dan's Wild Wild Science Journal about atmospheric science, ocean science, planetary science, seismology, natural hazards, and paleoclimatology, targeting middle- and high-school students
- Ryan Anderson, who is a year and a half away from completing his Ph.D. in astronomy at Cornell University, Ithaca, N. Y., runs The Martian Chronicles, a blog on planetary sciences.
- Callan Bentley, an assistant professor of geology at Northern Virginia Community College, is a prolific blogger who posts stories almost daily at Mountain Beltway on seismology, tectonophysics, volcanology, and the cryosphere, with a focus on the Washington area.
- Vivienne Raper, a Ph.D. scientist in climate change monitoring turned science writer, shares her enthusiasm for the natural world in Outdoor Science.
- John Freeland, an environmental scientist, blogs at Terra Central on soil issues.

We invite readers not only to read the posts on the AGU Blogosphere, but to also join the conversation, be it via the comments sections of the blogs, our blogosphere's forums, or our social media outlets.

Start reading at http://blogs.agu.org/blogs/.

We hope to attract more bloggers to join in coming months and years. If you have an Earth or space science blog and you are interested in joining the AGU Blogosphere, please contact Maria-José Viñas at mjvinas@agu.org.

AGI Offers New Membership Category: International Associates

The American Geological Institute (AGI) is pleased to announce a new membership category, International Associate (IA).

Since 1948, the AGI Federation has largely been comprised of U.S. earth science societies. With the addition of International Associates, groups with predominately international memberships (less than 25 U.S. professional members) will be able to participate within the AGI Federation. AGI President Richard Powers said "The geosciences are truly global in scope and the ability to work in concert with geoscience organizations around the world benefit our profession enormously. Societal problems involving the geosciences know no borders and efforts to improve the exchange of knowledge across geoscience organizations worldwide are sorely needed and we are hopeful that this step helps to close the knowledge and communication gap."

The inclusion of International Associates will provide better communication between U.S. and international geoscience organizations. This will open the door for new opportunities for joint partnerships and programs of shared interest. Like traditional AGI Member Societies, International Associates will be able gain access to AGI products and services. IAs will be non-voting members of the AGI Member Society Council.

All International Associates must be approved by the AGI Executive Committee. If your group is interested in obtaining membership through the IA program, please contact the AGI Executive Director, Dr. P. Patrick Leahy at pleahy@agiweb.org.

GeoVoices: Importance and Future Roles of State Geological Surveys

By A Committee of Members of the American Institute of Professional Geologists

State geological surveys are vitally important to the economy of each state and to the nation. The information they collect and disseminate is used by other state agencies, by consultants, industry, developers, and the public as critical input in local and regional economic development plans, resulting in an economic advantage to the state. The information is essential for the responsible and sustainable development of a state's mineral, energy, and water resources, safe development and modernization of infrastructure, protecting the public from losses due to geologic and natural hazards or anthropogenic hazards, and the wise use of the state's natural resources for tourism and recreation. All of these are significant to the economy of the state and to the nation by providing jobs and various revenues, preventing or minimizing loss due to hazards and natural disasters, and by increasing our understanding of the earth's resources and the need for sustainable use.

The American Institute of Professional Geologists (AIPG) formed a special committee to evaluate the importance of state geological surveys in today's world and the future roles of the surveys. The committee included AIPG members who are familiar with and often work with the surveys. The committee members researched each geological survey, interviewed the State Geologists (the directors of the surveys), and reviewed guidance statements, organizational structure, programs, funding levels and staff roles of the surveys across the country. The committee concluded that state geological surveys provide critical functions in a cost effective manner that greatly enhances each state's economy and environment. The surveys provide the public and private sectors considerable support on all types of important environmental and natural resource issues. Continued support of our state geological surveys is critical since the services they provide are invaluable.

The state geological surveys serve our country in a significant role by providing unbiased and sound scientific research, geologic data and maps, and reports to the public, industry, academia, government agencies as well as local, municipal, county, state, and federal legislators and regulators. The responsibilities of the surveys vary somewhat from state to state, depending upon the enabling legislation, the specific needs of each state and the traditions under which each survey evolved. A thorough understanding of the state's geology is required to make informed decisions pertaining to the state and regional energy, water, mineral and land resources and to make this information available to the public. In many cases the longevity of a particular survey has allowed it to become the state's most valuable source of information on natural resource issues. Some surveys were established well over 150 years ago and others are approaching 70 to 80 years of existence. State geological surveys continue to be a critical resource for the nation.

About one-third of the state geological surveys function under a state university system while the other two-thirds operate as part of state government, either as a stand-alone agency or as part of a larger state governmental entity. Most state surveys are non-regulatory whereas some have enforcement duties. All provide data and information in support of other agencies that have regulatory responsibilities particularly with regard to public health and safety including mineral resource development, oil and gas exploration, dam safety, utilities siting and design, waste disposal facility siting and design, investigation and remediation of contaminated sites, and water well drilling. State surveys also serve as repositories for important geologic information and specimens such as geophysical data logs and rock core. These type of data repositories save the private sector millions of dollars in exploratory costs each year. Review of properly catalogued and archived rock core allows consultants, academia, and other public agency resource specialists and scientists to better understand the subsurface conditions at a site by using previously obtained resource information and reducing the need to obtain costly and perhaps redundant samples.

The surveys are managed and staffed by geologists, hydrogeologists, geophysicists, hydrologists, engineering geologists, GIS and spatial analysts, and other earth sciences professionals that have extensive knowledge of the earth's natural resources in their states and surrounding region. These highly trained and qualified individuals play an important role in conducting geologic, hydrologic, and geologic hazards investigations and providing services that may be used to advise, inform, and educate stakeholders about the importance of earth sciences in public policy decisions. The surveys also provide outreach to the public, local government, state agencies, federal agencies, and industry; stimulate research, study, and activities in the earth sciences by supporting K-12 and university level education; and share expertise by participation in professional organizations and at conferences.

In the past, surveys conducted geologic mapping, often in support of mineral resource development. Today, in addition to traditional mapping and data collection, the surveys provide much broader services focusing on human

health, the environment, natural geologic hazards and anthropogenic hazards, energy and mineral resources, water resources, land-use planning, agriculture, economic development, education, earth resources development, climate change, sustainability, public policy support, and tourism and recreation. A current trend is toward providing all data and reports in a digital format as well as accessing the archives of older reports and making them available in a digital format. This digital format has increased the value of the surveys by providing easier accessibility to geologic data and information to the public, state, and federal agencies.

The surveys develop and provide an array of publications for the general public as well as strong technical reports and data collections that are used by geologists and other earth science professionals in public agencies and private industry. Typical environmental and geological hazard reporting and mapping projects may include hazard zone maps for earthquakes, tsunamis, landslides, rock fall and other slope failure, sink holes, areas with accelerated soil erosion and other adverse soil conditions, land subsidence and earth fissures, volcanic activity, areas prone to flash flooding and debris flows, shoreline and stream erosion, geomagnetic storms, avalanche zones, radon, arsenic, and other local hazards. These reports and maps may be used to identify, inventory, assess, and mitigate geologic and subsurface environmental hazards to promote safe and responsible land use, and to facilitate emergency preparedness. Other important studies include identification of natural resources such as oil, natural gas, coal, geothermal energy, mineral resources, water resources (including conditions related to water quality and quantity), subsurface storage of CO2, hydraulic fracturing associated with shale gas extraction, and the need for alternative energy. It is critical to have a thorough understanding of these resources and their related geological settings for environmentally safe, economic, and sustainable development.

The surveys regularly provide staff and technical resource support to other state agencies. Cooperative programs with other state surveys and federal agencies add to the value of information from each survey. The surveys routinely assist the consulting community, industry, other local, state and federal agencies, to create the best solutions and at an economic benefit from shared professional knowledge and cooperative work. Most state geological surveys actively participate in federally-sponsored programs that lead to a better and more comprehensive understanding of the geology and subsurface resources of our nation.

The survey's designated leaders are the State Geologists, who coordinate nationally through the Association of American State Geologists (AASG). This group shares ideas, issues and projects that enhance the group's ability to better serve our nation. The state geologists often work closely with their state legislators as well as with members of the United States Congress to provide advice on how legislation may affect natural resources, the environment, and geologic hazards. As an example, AASG is taking the lead role in exploring America's geothermal energy potential through an $18 million grant issued by the US Department of Energy (DOE) to develop a National Geothermal Data System (NGDS). Each state geological survey is involved in compiling, digitizing, and documenting their existing data for populating the NGDS in a coordinated effort that can be easily referenced to evaluate an area's geothermal potential. Private industry is also involved in this project, which will lead to new software and database resources of great future value for many public and private sectors. Most state geological surveys participate in the US Geological Survey (USGS) Federal Cooperative Mapping Program, part of the National Geologic Mapping Act of 1992, which funds quadrangle mapping either through the STATEMAP or EDMAP programs. Each participating survey prepares geologic maps in an ongoing effort to map the entire United States on a statewide basis at a scale that is consistent and of the quality and detail to also be used to compile seamless digital maps for the entire country. State geological surveys also participate in the Geosciences Information Network (GIN) which links databases in the US state geological surveys (through AASG) and the USGS geology, geography, water, and biology databases. Cooperative programs such as these allow the state geological surveys to provide more useful maps, data sets, and reports and with a greater economic value.

The surveys contribute important data to the USGS and other federal agencies to compile assessments of minerals, energy, alternative energy, water, natural hazards, and other resources and information that are important to our nation. Mineral and water resource data submitted to USGS on a state basis are highly valuable to the USGS in evaluating known and potential resources and mining trends (quantity, quality, and projections).

The AIPG committee strongly supports the state geological surveys. The committee advises against neglect or termination of any of the primary state survey functions and highly recommends continued and even greater support for the long term and broad-reaching benefits afforded by the services of the surveys. It is vitally important that the surveys continue their efforts to conduct their work relevant to the issues of today and the future, to provide basic data and continue to map the geology and resources of each state, to continue the trend of providing information in a digital format, and to continue to work on cooperatively-funded projects, especially for those issues that are of value to each state and the entire nation. It is essential to maintain these valuable programs that are important to the public health and safety, to the environment and sustaining our resources, and the overall economy of each state and the nation.

Our nation's state geological surveys serve a fundamental role in resolving many of the important issues facing our world today and in the future. Continued support of our state geological surveys is critical. Each state is fortunate to have a resource such as its state geological survey.

EARTH Now Offers Digital Subscriptions

The American Geological Institute is pleased to announce that EARTH magazine, the magazine that explores the science behind the headlines, is now available for PC, Mac and the iPad through Zinio. Starting with the November 2010 issue, both year-long subscriptions and single copies of the online magazine can be purchased at a savings over the print edition.

"Our readers have been asking for a digital version of EARTH. Now we've found a platform in Zinio that combines the best of both print and online technology. It does an excellent job of preserving the art and layout of the magazine, but also provides the convenience of a digital format. In particular, with the new tablets like the iPad, digital magazine technology is now meeting the editorial standards we expect," says EARTH Editor Christopher Keane.

The Zinio version of EARTH is identical to the printed magazine, but appears on your computer or iPad weeks earlier than the printed edition arrives in your mailbox or on local newsstand shelves. As an added benefit, the digital edition of EARTH is the same price worldwide – $4.99 for single copies or $19.99 for a 12-issue subscription.

Visit http://www.earthmagazine.org/digital/ for more information on the online format or to subscribe to the digital edition of EARTH magazine.

EARTH

GeoCorps America

Would you like to work in a National Park, National Forest, or Bureau of Land Management area?

The Geological Society of America is in partnership with the National Park Service, the USDA Forest Service, and the Bureau of Land Management to place geoscientists on America's public lands. The program is called GeoCorps America. Position descriptions (over 90 in all) and application information for summer 2011 are posted at http://rock.geosociety.org/g_corps/index.htm.

Positions are temporary and occur primarily during the summer, although some take place at other times of the year. Each position offers a $2,750 stipend, free housing (or a housing allowance), and in some cases, a travel allowance.

Required qualifications vary by position. All levels and kinds of geoscience expertise, from undergraduates to retired professionals, are needed.

This year, GeoCorps America introduces two new and exciting aspects of the program—GeoCorps Diversity Internships and GeoCorps American Indian Internships. Detailed information about these new opportunities is posted on the GeoCorps website.

Applications for summer 2011 positions can be submitted online beginning December 1, 2010, and must be received by February 1, 2011. For more information, contact Matt Dawson, mdawson@geosociety.org, 303-357-1025.

THE GEOLOGICAL SOCIETY OF AMERICA®

IUGS, IGC, YES Network: Early Career Geoscientists Essay Contest,

The Future of the Geological Sciences

During 2011, the International Union of Geological Sciences (IUGS) will be celebrating its 50 year anniversary of fostering a global voice for the geosciences. Since 1961, the IUGS has been promoting and encouraging the study of the geosciences while actively supporting and facilitating international and interdisciplinary cooperation.

Throughout the 2011 celebration, the IUGS will be hosting special events and activities to commemorate the anniversary. One such activity consists of organizing and sponsoring a global geoscience essay contest for early career geoscientists to voice their outlook on the future of the geosciences. The winning essay will be published as the lead article in Episodes magazine, the global publication of IUGS which is distributed in 150 countries. The winner will also receive free registration to the next International Geological Congress (IGC) to be held in Brisbane, Australia in August 2012. The winner will be acknowledged formally with a Medal to be presented at the IUGS awards ceremony during IGC Australia.

IUGS invites all early career geoscientists that are under 35 years of age to submit an essay on their view of the Future of the Geological Sciences.

Guidelines for submissions:

- Abstract: 200 words
- Paper: minimum 3000 words; maximum 5000 words
- Language: English
- Theme: The Future of the Geological Sciences
- Submitted by: geoscientists under the age of 35 years
- Submission deadline: 7 March 2011
- Submit essays to: Wesley Hill whill@geosociety.org

Contest Partners:

International Union of Geological Sciences (IUGS) http://www.iugs.org/
34th International Geological Congress (IGC) http://www.34igc.org/
Young Earth Scientist (YES) Network http://www.networkyes.org/
Episodes http://www.episodes.org/

American Geological Institute
EarthNotes

AGI Launches EarthNotes

The American Geological Institute (AGI) is pleased to offer a new service, EarthNotes, information briefs that provide engaging and timely information about earth science issues.

EarthNotes are concise reports created to inform the general public about the interactions between the planet and their daily lives. Each one-to-two-page EarthNote is authored by an expert in the field and will cover all geoscience topics ranging from volcanology to climate to natural resources.

AGI is currently soliciting authors for EarthNotes. If you are interested in participating in this outreach endeavor, please contact AGI Environmental Affairs Director, Travis Hudson at ageology@olypen.com.

To view EarthNotes, go to http://www.agiweb.org/environment/earthnotes/.

GSA HQ Goes Solar

The Geological Society of America (GSA), along with local government officials, businesses, and the GSA Foundation, celebrated the switch to solar power at a "ribbon cutting" ceremony at their headquarters in Boulder, Colorado on 28 October. The 66-kW system is expected to supply 35% of GSA's annual power needs. GSA is committed to environmental leadership and the solar project complements GSA's mission to support Earth stewardship in a very visible way.

Solar Panels on GSA Headquarters Roof

BSSA Special Issue on the 2008 Wenchuan, China, Earthquake Now Available

Volume 100, number 5B of the Bulletin of the Seismological Society of America, a special issue dedicated to the 12 May 2008 Earthquake in Wenchuan, China, is now available online at BSSA Online and GeoScienceWorld. Guest edited by Yann Klinger, Chen Ji, Zheng-Kang Shen, and William H. Bakun, the issue features over 30 articles on the quake as well as five electronic supplements which are available on the SSA website.

Visit the online table of contents: (http://www2.seismosoc.org/FMPro?-db=bssa_index.fp7&-lay=toc&-format=/bssa_index/toc_disp.html&Volume=100&IssueNumber=5B&-SortField=StartPageNumeric&-Max=all&-find) for links to article abstracts, full text PDFs and electronic supplements.

GSA Field trip to Australia – an ancient land!

Gary Lewis, Geological Society of America (GSA) Director of Education & Outreach will lead a field trip for professionals and friends of Australia in July 2011. Come and see the wonders of the Sydney Basin, Blue Mountains, and Jenolan Caves. Snorkel on the Great Barrier Reef during a private tour. See the world's largest lava tubes and the tropical forests of Queensland. Journey to the red centre and visit Kings Canyon and Uluru (Ayers Rock). Hear local specialists and much more. This is a trip opportunity of a lifetime. Contact Gary at glewis@geosociety.org to be sent more details.

THE GEOLOGICAL SOCIETY OF AMERICA®

The Geological Society of London Position Statement Climate change: evidence from the geological record

The Geological Society has prepared a position statement on climate change, focusing specifically on the geological evidence. A drafting group was convened, with the aim of producing a clear and concise summation, accessible to a general audience, of the scientific certainties and uncertainties; as well as including references to further sources of information.

The drafting group met on 18 February and 2 July. The resulting document has been discussed, revised and agreed by the External Relations Committee, and by Council. If you have any questions about the document, please contact sarah.day@geolsoc.org.uk.

Climate change is a defining issue for our time. The geological record contains abundant evidence of the ways in which Earth's climate has changed in the past. That evidence is highly relevant to understanding how it may change in the future. The Council of the Society is issuing this statement as part of the Society's work "to promote all forms of education, awareness and understanding of the Earth and their practical applications for the benefit of the public globally". The statement is intended for non-specialists and Fellows of the Society. It is based on analysis of geological evidence, and not on analysis of recent temperature or satellite data, or climate model projections. It contains references to support key statements, indicated by superscript numbers, and a reading list for those who wish to explore the subject further.

What is climate change, and how do geologists know about it?

The Earth's temperature and weather patterns change naturally over time scales ranging from decades, to hundreds of thousands, to millions of years1. The climate is the statistical average of the weather taken over a long period, typically 30 years. It is never static, but subject to constant disturbances, sometimes minor in nature and effect, but at other times much larger. In some cases these changes are gradual and in others abrupt.

Evidence for climate change is preserved in a wide range of geological settings, including marine and lake sediments, ice sheets, fossil corals, stalagmites and fossil tree rings. Advances in field observation, laboratory techniques and numerical modelling allow geoscientists to show, with increasing confidence, how and why climate has changed in the past. For example, cores drilled through the ice sheets yield a record of polar temperatures and atmospheric composition ranging back to 120,000 years in Greenland and 800,000 years in Antarctica. Oceanic sediments preserve a record reaching back tens of millions of years, and older sedimentary rocks extend the record to hundreds of millions of years. This vital baseline of knowledge about the past provides the context for estimating likely changes in the future.

What are the grounds for concern?

The last century has seen a rapidly growing global population and much more intensive use of resources, leading to greatly increased emissions of gases, such as carbon dioxide and methane, from the burning of fossil fuels (oil, gas and coal), and from agriculture, cement production and deforestation. Evidence from the geological record is consistent with the physics that shows that adding large amounts of carbon dioxide to the atmosphere warms the world and may lead to: higher sea levels and flooding of low-lying coasts; greatly changed patterns of rainfall; increased acidity of the oceans; and decreased oxygen levels in seawater.

There is now widespread concern that the Earth's climate will warm further, not only because of the lingering effects of the added carbon already in the system, but also because of further additions as human population continues to grow. Life on Earth has survived large climate changes in the past, but extinctions and major redistribution of species have been associated with many of them. When the human population was small and nomadic, a rise in sea level of a few metres would have had very little effect on Homo sapiens. With the current and growing global population, much of which is concentrated in coastal cities, such a rise in sea level would have a drastic effect on our complex society, especially if the climate were to change as suddenly as it has at times in the past. Equally, it seems likely that as warming continues some areas may experience less precipitation leading to drought. With both rising seas and increasing drought, pressure for human migration could result on a large scale.

When and how did today's climate become established?

The Earth's climate has been gradually cooling for most of the last 50 million years. At the beginning of that cooling (in the early Eocene), the global average temperature was about 6-7 ºC warmer than now. About 34 million years ago, at the end of the Eocene, ice caps coalesced to form a continental ice sheet on Antarctica. In the northern hemisphere, as global cooling continued, local ice caps and mountain glaciers gave way to large ice sheets around 2.6 million years ago.

Over the past 2.6 million years (the Pleistocene and Holocene), the Earth's climate has been on average cooler than today, and often much colder. That period is known as the 'Ice Age', a series of glacial episodes separated by short warm 'interglacial' periods that lasted between 10,000-30,000 years. We are currently living through one of these interglacial periods. The present warm period (known as the Holocene) became established only 11,500 years ago, since when our climate has been relatively stable. Although we currently lack the large

Northern Hemisphere ice sheets of the Pleistocene, there are of course still large ice sheets on Greenland and Antarctica.

What drives climate change?

The Sun warms the Earth, heating the tropics most and the poles least. Seasons come and go as the Earth orbits the Sun on its tilted axis. Many factors, interacting on a variety of time scales, drive climate change by altering the amount of the Sun's heat retained at the Earth's surface and the distribution of that heat around the planet. Over millions of years the continents move, ocean basins open and close, and mountains rise and fall. All of these changes affect the circulation of the oceans and of the atmosphere. Major volcanic eruptions eject gas and dust high into the atmosphere, causing temporary cooling. Changes in the abundance in the atmosphere of gases such as water vapour, carbon dioxide and methane affect climate through the Greenhouse Effect – described below.

As well as the long-term cooling trend, evidence from ice and sediment cores reveal cycles of climate change tens of thousands to hundreds of thousands of years long. These can be related to small but predictable changes in the Earth's orbit and in the tilt of the Earth's axis. Those predictable changes set the pace for the glacial-interglacial cycles of the ice age of the past 2.6 million years. In addition, the heat emitted by the Sun varies with time. Most notably, the 11-year sunspot cycle causes the Earth to warm very slightly when there are more sunspots and cool very slightly when there are few. Complex patterns of atmospheric and oceanic circulation cause the El Niño events and related climatic oscillations on the scale of a few years.

What is the Greenhouse Effect?

The Greenhouse Effect arises because certain gases (the so-called greenhouse gases) in the atmosphere absorb the long wavelength infrared radiation emitted by the Earth's surface and re-radiate it, so warming the atmosphere. This natural effect keeps our atmosphere some 30°C warmer than it would be without those gases. Increasing the concentration of such gases will increase the effect (i.e. warm the atmosphere more).

What effect do natural cycles of climate change have on the planet?

Global sea level is very sensitive to changes in global temperatures. Ice sheets grow when the Earth cools and melt when it warms. Warming also heats the ocean, causing the water to expand and the sea level to rise. When ice sheets were at a maximum during the Pleistocene, world sea level fell to at least 120 m below where it stands today. Relatively small increases in global temperature in the past have led to sea level rises of several metres. During parts of the previous interglacial period, when polar temperatures reached 3-5°C above today's, global sea levels were higher than today"s by around 4-9m. Global patterns of rainfall during glacial times were very different from today.

Has sudden climate change occurred before?

Yes. About 55 million years ago, at the end of the Paleocene, there was a sudden warming event in which temperatures rose by about 6°C globally and by 10-20°C at the poles. Carbon isotopic data show that this warming event (called by some the Paleocene-Eocene Thermal Maximum, or PETM) was accompanied by a major release of 1500-2000 billion tonnes or more of carbon into the ocean and atmosphere. This injection of carbon may have come mainly from the breakdown of methane hydrates beneath the deep sea floor, perhaps triggered by volcanic activity superimposed on an underlying gradual global warming trend that peaked some 50 million years ago in the early Eocene. CO_2 levels were already high at the time, but the additional CO_2 injected into the atmosphere and ocean made the ocean even warmer, less well oxygenated and more acidic, and was accompanied by the extinction of many species on the deep sea floor. Similar sudden warming events are known from the more distant past, for example at around 120 and 183 million years ago. In all of these events it took the Earth's climate around 100,000 years or more to recover, showing that a CO_2 release of such magnitude may affect the Earth"s climate for that length of time.

Are there more recent examples of rapid climate change?

Abrupt shifts in climate can occur over much shorter timescales. Greenland ice cores record that during the last glacial stage (100,000 -11,500 years ago) the temperature there alternately warmed and cooled several times by more than 10°C. This was accompanied by major climate change around the northern hemisphere, felt particularly strongly in the North Atlantic region. Each warm and cold episode took just a few decades to develop and lasted for a few hundred years. The climate system in those glacial times was clearly unstable and liable to switch rapidly with little warning between two contrasting states. These changes were almost certainly caused by changes in the way the oceans transported heat between the hemispheres.

How did levels of CO_2 in the atmosphere change during the ice age?

The atmosphere of the past 800,000 years can be sampled from air bubbles trapped in Antarctic ice cores. The concentrations of CO_2 and other gases in these bubbles follow closely the pattern of rising and falling temperature between glacial and interglacial periods. For example CO_2 levels varied from an average of 180 ppm (parts per million) in glacial maxima to around 280 ppm during interglacials. During warmings from glacial to interglacial, temperature and CO_2 rose together for several thousand years, although the best estimate from the end of the last glacial is that the temperature probably started to rise a few centuries before the CO_2 showed any reaction. Palaeoclimatologists think that initial warming driven by changes in the Earth's orbit and axial tilt eventually caused CO_2 to be released from the warming ocean and thus, via positive feedback, to reinforce the temperature rise already in train. Additional positive feedback reinforcing the temperature rise would have come from increased water vapour evaporated from the warmer ocean, water being another greenhouse gas, along with a decrease in sea ice, and eventually in the size of the northern hemisphere ice sheets, resulting in less reflection of solar energy back into space.

How has carbon dioxide (CO_2) in the atmosphere changed over the longer term?

Estimating past levels of CO_2 in the atmosphere for periods older than those sampled by ice cores is difficult and is the subject of continuing research. Most es-

timates agree that there was a significant decrease of CO_2 in the atmosphere from more than1000 ppm at 50 million years ago (during the Eocene) to the range recorded in the ice cores of the past 800,000 years. This decrease in CO_2 was probably one of the main causes of the cooling that led to the formation of the great ice sheets on Antarctica. Changes in ocean circulation around Antarctica may also have also played a role in the timing and extent of formation of those ice sheets.

How has carbon dioxide in the atmosphere changed in recent times?

Atmospheric CO_2 is currently at a level of 390 ppm. It has increased by one third in the last 200 years33. One half of that increase has happened in the last 30 years. This level and rate of increase are unprecedented when compared with the range of CO_2 in air bubbles locked in the ice cores (170-300 ppm). There is some evidence that the rate of increase in CO_2 in the atmosphere during the abrupt global warming 183 million years ago (Early Jurassic), and perhaps also 55 million years ago (the PETM), was broadly similar to today's rate34.

When was CO_2 last at today's level, and what was the world like then?

The most recent estimates suggest that at times between 5.2 and 2.6 million years ago (during the Pliocene), the carbon dioxide concentrations in the atmosphere reached between 330 and 400 ppm. During those periods, global temperatures were 2-3°C higher than now, and sea levels were higher than now by 10 - 25 metres, implying that global ice volume was much less than today. There were large fluctuations in ice cover on Greenland and West Antarctica during the Pliocene, and during the warm intervals those areas were probably largely free of ice. Some ice may also have been lost from parts of East Antarctica during the warm intervals. Coniferous forests replaced tundra in the high latitudes of the Northern Hemisphere, and the Arctic Ocean may have been seasonally free of sea-ice.

When global temperature changed, did the same change in temperature happen everywhere?

No. During the glacial periods in the Pleistocene the drop in temperature was much greater in polar regions than in the tropics. There is good evidence that the difference between polar and tropical temperatures in the warmer climate of the Eocene to Pliocene was smaller than it is today. The ice core record also shows differences between Greenland and Antarctica in the size and details of the temperature history in the two places, reflecting slow oceanic heat transport between the two poles.

In conclusion - what does the geological record tell us about the potential effect of continued emissions of CO_2?

Over at least the last 200 million years the fossil and sedimentary record shows that the Earth has undergone many fluctuations in climate, from warmer than the present climate to much colder, on many different timescales. Several warming events can be associated with increases in the 'greenhouse gas' CO_2. There is evidence for sudden major injections of carbon to the atmosphere occurring at 55, 120 and 183 million years ago, perhaps from the sudden breakdown of methane hydrates beneath the seabed. At those times the associated warming would have increased the evaporation of water vapour from the ocean, making CO_2 the trigger rather than the sole agent for change. During the Ice Age of the past two and a half million years or so, periodic warming of the Earth through changes in its position in relation to the sun also heated the oceans, releasing both CO_2 and water vapour, which amplified the ongoing warming into warm interglacial periods. That process was magnified by the melting of sea ice and land ice, darkening the Earth's surface and reducing the reflection of the Sun's energy back into space.

While these past climatic changes can be related to geological events, it is not possible to relate the Earth's warming since 1970 to anything recognisable as having a geological cause (such as volcanic activity, continental displacement, or changes in the energy received from the sun). This recent warming is accompanied by an increase in CO_2 and a decrease in Arctic sea ice, both of which – based on physical theory and geological analogues - would be expected to warm the climate. Various lines of evidence, reviewed by the Intergovernmental Panel on Climate Change clearly show that a large part of the modern increase in CO2 is the result of burning fossil fuels, with some contribution from cement manufacture and some from deforestation. In total, human activities have emitted over 500 billion tonnes of carbon (hence over 1850 billion tons of CO_2) to the atmosphere since around 1750, some 65% of that being from the burning of fossil fuels. Some of the carbon input to the atmosphere comes from volcanoes, but carbon from that source is equivalent to only about 1% of what human activities add annually and is not contributing to a net increase.

In the coming centuries, continued emissions of carbon from burning oil, gas and coal at close to or higher than today's levels, and from related human activities, could increase the total to close to the amounts added during the 55 million year warming event some 1500 to 2000 billion tonnes. Further contributions from natural sources (wetlands, tundra, methane hydrates, etc.) may come as the Earth warms. The geological evidence from the 55 million year event and from earlier warming episodes suggests that such an addition is likely to raise average global temperatures by at least 5-6°C, and possibly more, and that recovery of the Earth's climate in the absence of any mitigation measures could take 100,000 years or more. Numerical models of the climate system support such an interpretation. In the light of the evidence presented here it is reasonable to conclude that emitting further large amounts of CO_2 into the atmosphere over time is likely to be unwise, uncomfortable though that fact may be.

To view the complete statement as either a webpage or printable PDF complete with acknowledgements, further reading, and references please visit http://www.geolsoc.org.uk/gsl/views/policy_statements/page7426.html .

AGI Announces New 2011 Executive Committee Members

The American Geological Institute (AGI) welcomes three new Executive Committee members: Wayne D. Pennington, President-Elect; Berry H. (Nick) Tew, Jr., Secretary; and David W. Bieber, Member-at-Large.

Wayne Pennington is the Department Chair and Professor of Geophysical Engineering in the Department of Geological and Mining Engineering and Sciences at Michigan Technical University. Dr. Pennington's other leadership roles include being the First Vice President of the Society of Exploration Geophysicists (2002-2003).

Nick Tew, AGI's incoming Secretary, is currently the Alabama State Geologist and Oil and Gas Supervisor, roles he has served since 2002. Dr. Tew is also involved in the Association of American State Geologists, serving as President (2008-2009); the Interstate Oil and Gas Compact Commission, where he is the incoming 1st Vice Chairman; the Geological Society of America; and the American Association of Petroleum Geologists, where he is an Associate Editor. Tew has recently been appointed to the National Petroleum Council.

David Bieber, Senior Geologist and Geological Services Manager of Geocon Consultants, Inc. in Sacramento, California will serve as an AGI Member-at-Large. In addition to his involvement with AGI, Bieber has served as President of the Association of Environmental and Engineering Geologists (2004-2005) and President of Surveyors, Architects, Geologists, and Engineers in El Dorado County (2010). He is an active member of the American Association of Petroleum Geologists and the Geological Society of America.

The new members of the AGI Executive Committee were installed during the Geological Society of America Annual Meeting in Denver, Colorado.

New BSSA Editor-in-Chief Selected

The Seismological Society of America has named Diane I. Doser, professor of geosciences at University of Texas at El Paso, the new editor-in-chief of the Bulletin of the Seismological Society of America (BSSA), effective June 1, 2010. Doser's research interests include studies of historical pre-1964 and recent earthquakes in south-central, southeast and interior Alaska, and central to northern California. She also applies geophysical techniques to environmental and engineering problems including watershed studies and estimating the quality and quantity of saline and freshwater aquifers. Results of her earthquake studies have helped in producing the next generation of earthquake hazard maps for the Alaska region. Her shallow geophysical studies are helping to assess the structural and stratigraphic controls on groundwater resources of the El Paso area. The Seismological Society of America has named Diane I. Doser, professor of geosciences at University of Texas at El Paso, the new editor-in-chief of the Bulletin of the Seismological Society of America (BSSA).

BSSA is the premier journal of advanced research in earthquake seismology and related disciplines. The bimonthly journal is composed of scientific papers on the various aspects of seismology, including investigation of specific earthquakes, theoretical and observational studies of seismic waves, inverse methods for determining the structure of the Earth or the dynamics of the earthquake source, seismometry, earthquake hazard and risk estimation, seismotectonics, and earthquake engineering. According to the Thomson Reuters' Sciencewatch,

BSSA published more papers on earthquakes in 2009 than any other journal and ranked second in number of citations.

A member of BSSA's editorial board since 1996, Doser will succeed Andrew Michael, a geophysicist with U.S. Geological Survey, who has served as editor-in-chief since 2004.

The New Orleans Geological Society Announces Officers and Directors

President: Rick Kear, Schlumberger
Vice President: Eric Zimmermann, LLOG Exploration
Secretary: Penne Rappold, Shell
Treasurer: Will Jorgensen, Shell
President Elect: Bob Hafner, Consultant
Editor: Fran Wiseman, BOEMRE
Director 2011: Scott A. Wainwright, Bret Exploration
Director 2012: Arthur H. Johnson, Hydrate Energy International
Director 2013: Jack Langford, JCL Services
Editor Elect: David Tatum, Chevron

Vicki J. Cowart Receives 2010 Ian Campbell Medal

Vicki J. Cowart has been named the 29th recipient of the Medal in honor of Ian Campbell for Superlative Service to the Geosciences. Cowart was presented this prestigious award at the Geological Society of America Presidential Address Ceremony in Denver, Colorado on October 30, 2010.

Cowart earned a B.S. in physics from Worcester Polytechnic Institute and a M.S. in geophysics from the Colorado School of Mines. After receiving her degrees she spent 16 years in the petroleum industry. First she worked as an exploration geophysicist for Mobil (now ExxonMobil) then an exploration manager for ARCO and finally as a technical sales and operations manager for Schlumberger Ltd. After working in industry, she served as the Colorado State Geologist from 1993-2003 where she was instrumental in establishing the Survey's geologic mapping program and secured funding from the state legislature for both the survey and its Avalanche Information Center. Currently, Cowart is the President and CEO for Planned Parenthood of the Rocky Mountains.

In addition to the Ian Campbell Medal, Cowart has received many awards and distinctions including; the Colorado School of Mines' Distinguished Achievement Medal, the AIPG John T. Galey, Sr. Memorial Public Service Award, the Rocky Mountain Association of Geologists Distinguished Public Service to the Earth Sciences Award, the Association for Women Geoscientists Distinguished Service Award, and the Colorado Citizens' Leadership Excellence Award.

Throughout her career, Cowart has served in many leadership roles within the geoscience community. She helped found the Association for Women Geoscientists (AWG) where she served as its first National President and was critical in the development of the AWG Foundation. During her tenure as Colorado State Geologist, Cowart was active in the Association of American State Geologists (AASG), served as Treasurer, Vice President, and President of that organization, and continues as an Honorary Member. Cowart is also a member of the Colorado School of Mines Board of Trustees.

AGI feels that Cowart's longtime work in the geosciences and dedication to organizations such as AASG and AWG combined with her leadership roles make her extremely deserving of the Medal in honor of Ian Campbell for Superlative Service to the Geosciences.

EGU Announces New Leadership

The European Geosciences Union (EGU) is dedicated to the pursuit of excellence in the geosciences, planetary and space sciences for the benefit of humanity. EGU membership opens up a world of possibilities to members and as one of the largest geoscientific societies that includes more than 10,000 individuals worldwide.

EGU's new treasurer for 2011-2013 is Roland Schlich. He will be inducted during the 2011 EGU Meeting in Vienna, Austria on April 4th.

To learn more about EGU and view the complete list of new Division Presidents visit http://www.egu.eu/elections.html.

Clay Minerals Society Call for Nominations

The Clay Minerals Society is seeking nominations for the 2012 Bailey, Brindley, and Jackson awards. Guidelines for nominating qualified individuals can be viewed at http://www.clays.org/society awards/guidelines.html. Please submit nomination materials or inquiries to Randy Cygan (rtcygan@sandia.gov). The deadline for nominations is March 29, 2011.

AGI Past President honored with *Transactions* Dedication

Walt Coppinger and Bob Freed
2010 Transactions Dedication

The South Texas Geological Society, host of the 2010 convention of the Gulf Coast Association of Geological Societies and the Gulf Coast Section of SEPM are proud to dedicate Volume 60 of the Transactions in memory of Edward C. Roy, Jr.

On Friday, November 9, 2007, the geological community lost a gifted leader, educator, scientist, and friend with the passing of Dr. Edward C. Roy, Jr. The writers of this dedication had the pleasure and honor of working with Ed during much of his career at Trinity University, and we saw first-hand Ed's commitment to excellence in the performance of all his responsibilities. Ed's achievements continue to provide an outstanding role model embodying for all of us the values of dedication, outreach, optimism, and a job well done.

Ed received both his B.Sc. with High Distinction in Geology in 1961 and his Ph.D. in Geology in1964 from Ohio State University. Upon graduation, he joined Shell Oil Company first in Corpus Christi, and then in Houston. In 1966, he accepted a position in the Department of Geology at Trinity University in San Antonio, and served Trinity University in diverse positions from that time to his death in 2007.

Ed's exceptional teaching skills won him the Outstanding Professor Award during his first year of service at Trinity University. Ed's commitment to science education is a hallmark of his career and included many groups of students of all ages. Ed believed that if you want students to choose geology as a career, then you need to instill that interest within them as early as possible.

Ed rose through the teaching ranks and served as Chair of the Trinity University Department of Geology from 1978 to 1984. Moving into higher administrative positions at the University, he became Dean of Sciences, Mathematics, and Engineering in 1986, and then Vice President for Academic Affairs from 1987 to 1999. Ed then returned to the renamed Department of Geosciences as the Gertrude and Walter Pyron Distinguished Professor of Geology. Although formally retired from Trinity in 2005, Ed simply moved his office to the Trinity Education Department, where he continued to mentor science students.

Ed actively promoted Earth Science in state-based curricula. In 2002, Ed was appointed by the head of the Texas Education Agency to chair the Earth Sciences Task Force, which was charged with establishing Earth Science as a core-science course in high school. His efforts were instrumental in the inclusion of Earth Science as a fourth-year high school course in Texas schools.

Ed believed that professional societies must play a key role in furthering professional development, and so he actively served the South Texas Geological Society (STGS), Gulf Coast Association of Geological Societies (GCAGS), American Association of Petroleum Geologists (AAPG), Society for Sedimentary Geology (SEPM), Geological Society of America (GSA), American Association for the Advancement of Science (AAAS), and American Geological Institute (AGI). Ed's dedication to his profession was clearly acknowledged by his peers.

He served as President of STGS and GCAGS, and twice served, in 1984 and 1999, as General Chairman for the Annual Meeting of AAPG and its Divisions in San Antonio. He served as Secretary and President of AGI, and also as a member of two committees of the National Academy of Sciences. Ed also served the City of San Antonio by contributing to both the Chamber of Commerce and the San Antonio Water System Advisory Panel. Even though Ed devoted much of his time to professional service and teaching/administrative duties, he still managed to publish 27 professional papers in a variety of journals from 1962 to 2004. Ed was formally recognized for his professional, educational, and public service contributions. STGS recognized him as Honorary Member (1995); GCAGS acknowledged him with the Best Paper Award (1981), A. I. Levorsen Award (1981), Honorary Member (1983), Outstanding Educator Award (1991), and Don R. Boyd Medal for Excellence in Gulf Coast Geology (2004). AAPG honored him with their Distinguished Service Award (1990), Honorary Member (1993), and the Grover E. Murray Memorial Distinguished Educator Award (2004). AGI recognized Ed with the Ian Campbell Medal (2003), the William B. Heroy, Jr. Award for Distinguished Service (2003), and the Public Service Award (2006). Ed was a Fellow of both GSA (1999) and AAAS (1999).

Those of us who had the opportunity to work closely with Ed recognized not only his professional contributions, honors, awards, and achievements, but his foremost dedication to, and deep love for his family and Church. He was a devout Roman Catholic and rarely missed a Sunday mass. Ed's wife, Carol, was the center of his life, and together they raised three children, Mary Beth, Christine, and Ed, III, and were the proud grandparents of four grandchildren. During the summer prior to his passing, Ed planned and carried out a weeklong trip to the Grand Tetons for his entire family—making sure that everyone enjoyed themselves and understood what they were seeing. Always the educator, Ed Roy will be warmly remembered by all whose lives he touched.

We miss him.

AGI Announces G. Warfield "Skip" Hobbs as its 2011 President

The American Geological Institute (AGI) is pleased to announce Mr. G. Warfield "Skip" Hobbs as its new President. He was inducted at the Geological Society of America Annual Meeting in Denver, Colorado.

Hobbs, founder and Managing Partner of Ammonite Resources Company, received his B.S. in geology from Yale College, and his M.S. in petroleum geology from the Royal School of Mines, Imperial College, University of London.

Before founding Ammonite Resources, an international petroleum geotechnical and business consulting firm, Hobbs was employed as an exploration geologist by Texaco, Inc. in Ecuador, Great Britain, Indonesia and Portugal, and then by the Amerada Hess Corporation in New York. In 2008, Hobbs founded and serves as the president of Ammonite Nova Scotia Corporation, the operator of two petroleum exploration licenses offshore Eastern Canada.

Hobbs served on the AGI Executive Committee as Member-at-Large from 2004 to 2007. He has also served as President of the American Association of Petroleum Geologists (AAPG) Division of Professional Affairs, Past-President of the Eastern Section of AAPG, was on the Board of Directors of the Sierra Madre Foundation for Geological Research, and the Board of the Burgess Shale Geoscience Foundation in Field, British Columbia. In 2005, Hobbs was presented with the Honorary Membership Award of the AAPG. He is a trustee of the New Canaan Nature Center, in his hometown of New Canaan, Connecticut.

John E. Moore Receives Honorary Doctorate from Ohio Wesleyan University

Internationally recognized research scientist and hydrologist John E. Moore, Ph.D., a 1953 Ohio Wesleyan University graduate, will received an Honorary Doctor of Science Degree when he returned to campus to discuss hydrology—the study of water.

Ohio Wesleyan President Rock Jones, Ph.D., presented Moore with the honorary degree at Oct. 5, 2010. The ceremony was followed by Moore's presentation of "My Experiences as a Hydrologist at Ohio Wesleyan, the University of Illinois, U.S. Congress, the Environmental Protection Agency, and the U.S. Geological Survey."

A native of Columbus, Ohio, Moore earned his bachelor's degree in geology at Ohio Wesleyan, where he has since helped to establish the Crowl-Shanklin Scholarship for geology majors, donated books, and generously shared his scientific expertise with students and faculty.

Moore served in the U.S. Air Force, before earning both his master's and doctorate degrees in geology from the University of Illinois. He has more than 50 years of experience as a research scientist, teacher, technical advisor, and senior hydrologist with the U.S. Geological Survey, the U.S. Environmental Protection Agency, and private consulting firms.

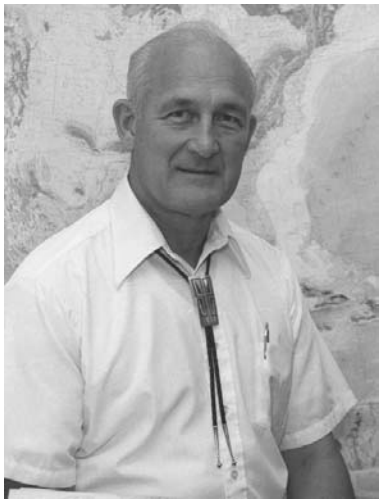
Moore has presented workshops and courses at international conferences, and received the U.S. Department of Interior Meritorious Service award for his work with the U.S. Geological Service and the country of Chile. He has been the author or co-author of five books, including the AGI publication "Glossary of Hydrology" and 90 scientific articles.

GSA Names New Division Officers

The Geological Society of America (GSA) has named their 2010-2011 Division officers and Past chairs. To view the complete list of officers please visit http://www.geosociety.org/divisions/divoffic.htm. To learn more about each of GSA's 17 divisions which cover specialties from mineralogy to geoinformatics please go to http://www.geosociety.org/divisions/.

THE GEOLOGICAL SOCIETY OF AMERICA®

Dr. William R. Muehlberger Receives Marcus Milling Legendary Geoscientist Medal



The American Geological Institute (AGI) is pleased to announce Dr. William R. Muehlberger, Professor Emeritus, Department of Geological Sciences of the University of Texas at Austin, as the recipient of the 2010 Marcus Milling Legendary Geoscientist Medal. Established in 1999, the award is presented to a geoscientist who has demonstrated a long history of scientific achievement and exceptional service to the geoscience profession.

Dr. Muehlberger received both his B.S. and M.S. in geology 1949 and then his Ph.D. in 1954 from the California Institute of Technology. He taught structural geology and tectonics at the University of Texas at Austin for over fifty years. During his impressive career, he supervised over 90 Ph.D. and M.A./M.S. theses. This work has lead to a greater understanding of tectonics in the western United States and Latin America.

In addition to his traditional teaching role, Dr. Muehlberger has trained astronauts in geology and was Principal Investigator of the geology team for the last two Apollo missions to the moon. The largest moon rock returned by Apollo astronauts was named "Big Muley" in his honor.

Dr. Muehlberger has a long record of service to the geoscience community. He has been a distinguished lecturer for the American Association of Petroleum Geologists, is a committee member for the National Academy of Science, and continues as a geological advisor to NASA's Space Shuttle Earth Observation Project.

He has received numerous awards during his career including the AAPG Distinguished Educator Award (2002), the NASA Medal for Exceptional Scientific Achievement (1973) and the NASA Public Service Medal (1999).

It is for his distinguished teaching career, his role with the U.S. astronaut corps, and his research in tectonics that AGI has deemed Dr. William Muehlberger extremely worthy of the Marcus Milling Legendary Geoscientist Medal.

WUNSCH NAMED DIRECTOR OF SCIENCE AND TECHNOLOGY AT NATIONAL GROUND WATER ASSOCIATION

David R. Wunsch, Ph.D., has been named director of science and technology for the National Ground Water Association (NGWA), leaving his position of 10 years as State Geologist of New Hampshire.

"NGWA aspires to be the leading groundwater association that advocates the responsible development, management, and use of water," said NGWA Executive Director Kevin McCray. "Dave Wunsch will be an excellent leader and innovator in NGWA's efforts to accomplish this goal."

"Dave ably will assist in expanding NGWA's role as an international leader in the dissemination of groundwater-related scientific and technical information, and in the development of policy to guide wise use and protection of the planet's groundwater resources," McCray said.

Wunsch has previously served as a Congressional Science Fellow, most directly with the U.S. House Subcommittee on Energy and Mineral Resources, as the coordinator of the coal-field hydrology program at the Kentucky Geological Survey; and as a geology instructor at Central Michigan University. He has served on, and presented his research to several National Academy of Science panels, and is currently an associate editor of the journal, Ground Water.

He has been an adjunct professor at the University of New Hampshire and the University of Kentucky, and a visiting scholar at Dartmouth College. Wunsch has been a voting member of the Joint Board of Licensure for Professional Geologists and the New Hampshire Water Well Board. In 2010, he served as president of the Association of American State Geologists.

As a long-time NGWA member and volunteer, Wunsch has provided testimony before the U.S. Senate, been a director of the Scientists and Engineers division, served on various committees and task groups, and co-chaired a NGWA groundwater science conference.

"I am excited to become part of the Association in a professional capacity. NGWA represents the nexus of professional, educational, and scientific programs that promote the wise stewardship of our ground-water resources. NGWA established the first national certification for well contractors, and publishes one of the premier scientific journals dedicated to ground-water science" Wunsch said.

Wunsch earned his Bachelor's in geology with a minor in chemistry from the State University of New York at Oneonta; his Masters with a hydrogeology emphasis from the University of Akron, and his Doctorate in hydrogeology with emphasis on low-temperature geochemistry from the University of Kentucky.

Selected NSF Research Grant Awardees in the Directorate for Geosciences

Awarded Between October 1, 2010 and January 1, 2011

- EAGER: Advancing the Analysis of Secondary Organic Aerosols Through Innovations in Soft Ionization Aerosol Mass Spectrometry
  University of Vermont & State Agricultural College
  P.I. Petrucci, Giuseppe
  $100,000.00

- Collaborative Research: Faulting processes during early-stage rifting: analysis of an unusual earthquake sequence in northern Malawi
  Columbia University
  P.I. Gaherty, James
  $102,793.00

- Remote Lightning Current and Charge Measurements
  Duke University
  P.I. Cummer, Steven
  $125,775.00

- Impact of Assimilating Satellite Microwave Radiance on Tropical Cyclone Rapid Intensification Forecasting
  Florida State University
  P.I. Zou, Xiaolei
  $132,151.00

- Study of the Solar Dynamics and its Evolution During Cycle 23 Based on an Improved Mode Fitting of a Solar Cycle Worth of Global Oscillation Network Group (GONG) Observations
  Smithsonian Institution Astrophysical Observatory
  P.I. Korzennik, Sylvain
  $135,930.00

- CEDAR: Investigating E Region Auroral Irregularities with Coherent and Incoherent Scatter Radar and Optics
  Cornell University
  P.I. Hysell, David
  $148,597.00

- Analysis of the Radiative Response of Clouds to El Nino/ Southern Oscillation (ENSO) Climate Fluctuations Texas A&M Research Foundation
  P.I. Dessler, Andrew
  $150,218.00

- Heavy Precipitation over Western North America: Synoptic/ Mesoscale Forcing and Decadal Trends
  University of Washington
  P.I. Mass, Clifford
  $151,412.00

- Linking hydroecologic form and function in estuary-wetland systems
  Stanford University
  P.I. Gorelick, Steven
  $155,350.00

- Collaborative Research: Holocene Hydrologic Variability across the Western Pacific Warm Pool
  University of Guam
  P.I. Jenson, John
  $164,335.00

- Ca-Mg Isotopic Probe of Transport Processes in High Temperature Geochemical Systems University of California-Berkeley
  P.I. DePaolo, Donald
  $167,160.00

- The Method of Anchored Distributions (MAD): Principles and Implementation as a Community Resource
  University of California-Berkeley
  P.I. Rubin, Yoram
  $169,177.00

- Lidar and Modeling Studies of Constituent Fluxes by Dissipating Gravity Waves in the Mesopause Region
  Embry-Riddle Aeronautical University
  P.I. Liu, Alan $172,773.00

- Postdoctoral Fellowship: 3D Numerical Models of the Dynamic Generation of Outer Rise Faults
  University of California-Davis
  P.I. Billen, Magali
  $179,947.00

- Formation of Secondary Organic Aerosol by Aqueous-phase Reactions of Phenols
  University of California-Davis
  P.I. Anastasio, Cort
  $192,679.00

- RAPID: The Science of the Spill; A Series of Short Programs for TV and the Web
  Pennsylvania State Univ University Park
  P.I. Fisher, Charles
  $200,000.00

- Collaborative Research: The Southern Subtropical Anticyclones
  University of Miami Rosenstiel School of Marine&Atmospheric Sci
  P.I. Lee, Sang-Ki
  $224,071.00

- Collaborative Research: Quantifying the impacts of atmospheric and land surface heterogeneity and scale on soil moisture-precipitation feedbacks
  Columbia University
  P.I. Gentine, Pierre
  $229,303.00

- Collaborative Research: Characterizing fault zones at Kilauea and Mauna Loa volcanoes by large-scale mapping of earthquake stress drops and high precision locations
  University of California-San Diego Scripps Inst of Oceanography
  P.I. Shearer, Peter
  $249,393.00

- Support for the Intergovernmental Oceanographic Commission of UNESCO
  United Nations Educ Scientific & Cultural Organization (UNESCO)
  P.I. Tedesco, Kathy
  $250,295.00

- Ultrasonic Velocity and Density Measurements on Silicate Melts at Upper Mantle Pressures
  SUNY at Stony Brook
  P.I. Li, Baosheng
  $276,513.00

- "What is Magnetic in the Lower Crust? Studies from the Athabasca Granulite Terrane, Canada"
  University of Massachusetts Amherst
  P.I. Brown, Laurie
  $289,499.00

- Collaborative research on quantifying the impacts of atmospheric and land surface heterogeneity and scale on soil moisture-precipitation feedbacks
  Rutgers University New Brunswick
  P.I. Lintner, Benjamin
  $301,629.00

- Collaborative Research: DYNAmics of the Madden Julian Oscillation/DYNAMO Mooring
  Oregon State University
  P.I. Moum, James
  $306,126.00

- Experimental Constraints on the Rheology and Seismicity of Subducting Lithosphere and the Slab-Wedge Interface
  Brown University
  P.I. Hirth, J. Gregory
  $363,600.00

- Stochastic Dynamics of Sudden Stratospheric Warmings
  Colorado State University
  P.I. Birner, Thomas
  $388,183.00

- Collaborative Research: The Southern Subtropical Anticyclones
  University of California-Los Angeles
  P.I. Mechoso, Carlos
  $415,863.00

- Collaborative Research: Large-Scale Atmospheric Response to the North Pacific Western Boundary Current Fluctuations and its Potential Predictability
  Woods Hole Oceanographic Institution
  P.I. Kwon, Young-Oh
  $426,822.00

- Collaborative Research: Holocene Hydrologic Variability across the Western Pacific Warm Pool
  University of Texas at Austin
  P.I. Partin, Judson
  $504,472.00

- Collaborative Research: Large-Scale Atmospheric Response to the North Pacific Western Boundary Current Fluctuations and its Potential Predictability
  University of Colorado at Boulder
  P.I. Newman, Matthew
  $530,767.00

- Effects of Freshwater Flux Forcing on Interannual Climate Variability and Predictability in the Tropical Pacific
  University of Maryland College Park
  P.I. Zhang, Rong-Hua
  $599,998.00

- DIMENSIONS: Collaborative Research - Uncovering the novel diversity of the copepod microbiome and its effect on habitat invasions by the copepod host
  University of Wisconsin-Madison
  P.I. Lee, Carol $726,561.00

- Denmark Strait Overflow Water: A New Paradigm for the Origin of the Deep Western Boundary Current
  Woods Hole Oceanographic Institution
  P.I. Pickart, Robert
  $867,210.00

- Collaborative Research: DYNAmics of the Madden Julian Oscillation/DYNAMO Mooring
  University of Washington
  P.I. Lien, Ren-Chieh
  $988,637.00

- DIMENSIONS: Collaborative Research - Uncovering the novel diversity of the copepod microbiome and its effect on habitat invasions by the copepod host
  University of Maryland at Baltimore
  P.I. Carneiro da Silva, Joana
  $1,640,357.00

- Ocean Acidification Category 1: A mechanistic understanding of the impacts of ocean acidification on the early life stages of marine bivalves
  Oregon State University
  P.I. Waldbusser, George
  $1,996,833.00

Geosciences and Policy Internships Available in Washington DC

The American Geological Institute's Government Affairs Program offers summer and semester internship opportunities for geoscience students (open to both undergraduate and graduate students) with an interest in public policy and in how Washington impacts the geoscience community. Interns gain a first-hand understanding of the legislative process and the operation of executive branch agencies while enhancing their writing, research, and web publishing skills. Deadlines for online submission of applications are March 15 for summer, April 15 for fall and October 15, 2011 for spring 2012. For more information on the application process go to http://www.agiweb.org/gap/interns/index.html .

The American Geophysical Union, the Soil Science Society of America, the American Institute of Physics, the American Association for the Advancement of Science and the American Chemical Society offer similar internships that may be of interest to geoscience students. Please visit their web sites or contact AGI at govt@agiweb.org for more information.

May 27-29, 2011
University of Portland,
Portland, OR

Initiating and Developing Undergraduate Research Programs

The Initiating and Sustaining Undergraduate Research Programs is an opportunity to learn more about promoting undergraduate research on campus, assisting faculty to develop undergraduate research programs, and promote the efforts of the campus as it seeks to involve more students in research. Abundant evidence now clearly indicates that undergraduate research experiences have a positive impact on student retention.

For additional information and an application visit: http://www.cur.org/institutes/isurp.html .

Deadline is April 1, 2011

Rocky Mountain Coal Mining Institute Scholarships Available

The 2011 scholarship applications are now available online. Scholarship criteria and application forms can be found on our website (http://www.rmcmi.org/). Click on the "Education" link on the left side of the homepage, then click on "Apply for Scholarships." The deadline for scholarship applications is February 1, 2011.

The Engineering/Geology scholarship (open to college Sophomores or Juniors) is $5,000 tuition credit ($2,500 each for two years). The winners also receive a free trip to the RMCMI annual convention.

The Technical/Trade scholarship (open to students of any accredited school) is $1,000 tuition credit (for one year).

This is a fantastic opportunity for a family member or any student who has expressed interest in Western coal as a career path. Applicants must be a resident of one of our eight member states (AZ, CO, MT, NM, ND, TX, UT, or WY).

GeoVoices: Education and Training of Geologists; Is Field Camp Still Relevant?

Peter H. (Pete) Dohms, CPG-07141 Pensacola, Florida

This article summarizes the discussion that has developed over the last six months within the AIPG group on *LinkedIn.com*1 about field camp and whether undergraduate (summertime) field training is still necessary for basic qualification as a geologist. As you will see in the following, several interesting and relevant sub-discussions also started, and the conversations occasionally veered in somewhat unexpected directions. Some strong opinions were expressed (including by the undersigned), but in every case the postings were friendly and constructive. The rest of this article begins with the "original" posting, then continues with examples of replies and other discussions. An attempt has been made to "group" the discussions by topic.

Original Post: Is There a Role for Field Camp in the Training/Education of the Modern Geologist?

"I posted this in a petroleum group and was curious whether the AIPG members had a different view... "When you are looking to hire a Geologist, is Field Camp optional? nice to have? important and valued? "Who are the successful Geologists in your organization - did they experience Field Camp? What are their thoughts on this topic (a good water cooler question). "When hiring someone right from chool, are your most successful candidates specialists or generalists (classical)? "Why (or why isn't) Field Camp important? "Thanks! I look forward to hearing from you!" – **Peter MacKenzie, CPG- 10698, Columbus, Ohio**

Replies were immediate. Some were short and to the point:

"A geologist without field camp is not a well trained geologist. No university should be cutting back on field study they should be increasing it! I would never hire a geologist without field camp." – **George H. Davis, CPG-10951.**

"Field camp separates us from the engineers. There is no substitute for bumbling in the field until you figure out what you are really looking at." – **Robin Dornfest, CPG-11292**.

Some replies were longer:

"Throughout my career, I continue to come back to experiences and lessons I learned through Geology Field Camp. Without a doubt, the most valuable class I ever took was field camp. Camp experiences teach problem solving and geologic understanding that can't be done elsewhere. The vigor-and-pursuit aspects of investigation are often one of the most important traits that gets developed at field camps. Without having the appetite for hard work in the field, the understanding of geology would be much less.

"I completed field camp at the LSU Camp in Colorado Springs. When I left there in 1980, the camp had rosters of previous classes painted on boards hung in the rafters of the mess hall that went back to the 1920's. As I remember, looking through those names, many of those geologists went on to teach across the country, to discover many new oilfields, and to ensure the wise use of our mineral resources. I have to believe that they would agree that their experiences at field camp led them to successful careers in Geology, to which we all have benefited from. I am certain that the many other university field camps around the country have alumni with similar accomplishments and beliefs. Field camps are most certainly one of the most important experiences for students of geology." – **George Conger, Ph.D.**

Two important sub-discussions occurred recently. The first was on the "cost" of field camp, and the second was related to issues of "liability" for incidents and accidents. Example posts on each topic follow:

Cost of Field Camp

"Personally I feel that field camp is quite important and extremely beneficial, if you want to be a geologist; but if you're afraid to get dirty and don't love to just touch rocks, you're in the wrong career. That said, as a current student at UT Austin with the required course load, the cost of field camp (tuition $3,489, camp cost $2,100, plus cost of gear) and the need to work part-time to keep the lights on it is rather prohibitive. As it is most students will take a full course load in the Fall and Spring and then take 4-9 hours at a community college in the summer just to get out in 4 years. Here at the Jackson School, field camp is six weeks long. So for me to take field camp I have the six weeks of lost income from working over the summer to support my wife and I, approximately $5600 in basic tuition costs (UT Austin tries to cover at least half of the $2100 fee so let's say $4600 total tuition and fees) the cost for field gear (clothing, boots, tent, sleeping bag, etc.) that will last six weeks of camp (expensive gear) and the loss of the ability of taking other courses during the summer like, "Intro. to Underwater Basket Weaving" or "The History of Hair" or other interesting and critical courses I have to take to graduate. "So while I love the concept of field camp and think its integral to being a geologist, it's becoming increasingly impractical. In my case I'm supposed to attend field camp summer 2011. I also have to attend a three week Hydrogeology field camp this summer. In my case it's more practical and significantly cheaper for me to replace field camp with an internship and sacrifice the educational and experiential opportunities of field camps." – **Mike Dobbins, Student & Re-**

searcher, Univ. of Texas at Austin

"…, obviously finances are a major factor, budget tightening departments looking for places to trim and improve income and expense metrics per unit hour...

"Coupled with the modern field camp expectation. You may be surprised, well, I am certain you will be surprised, at the relative improvement in comforts in the modern field camps... Old timers who may have camped, later may have lived in primitive cabins, then rented apartments or dive motels, then today resort hotels, it has (d) evolved. Old timers may have prepared all their own food, whereas today catering and restaurants. Old timers may have driven to the field, today fly. Old timers were 19 and single, today there are many non-traditional students who must work summers to support families and still go to school. Things are quite different today, personally I think in not a great way. I do wonder about the kid that wants to do field camp, but doesn't want to sleep in a tent on the outcrop... or worse have never been camping, or seen a mountain...why geology? Has the science (devolved)... what is a modern geologist? I personally think the train is off the track in many ways... "In short, the costs of field camp today are high(er) than in the past, I think students are clients rather than plebes... "A reason this conversation is important is to inspire professionals to reiterate the importance of the rocks and relationships, and to engage the schools with high quality field programs, to help them design and maintain the programs to meet our expectations. To do that we need to get involved, get our companies involved, and support, financially those quality camps with funding, scholarships, and grants... "It is important, even in the world of the Modern Geologist (which Geology as we know it may not be recognized as a big component...). – **Peter MacKenzie, CPG-10698.**

"…I wasn't in a position then to go on into academia and thus had to switch gears to a mix of engineering and environmental geology with some emphasis on hydrogeology in Michigan. At that time there were no hydrogeology field camps although there is a good one now at Western Michigan Univ. Consequently I urge students starting out to look seriously at the field camp experience recognizing that they will likely never get another shot at it.

"At the same time I also recognize the financial burden it creates as does all higher education today. That is something for which we all need to seek a solution. It's approaching the point where the middle class is being cut out financially (too poor to afford it, too rich for financial aid) and expenses are rapidly outrunning what financial assistance is available to the talented student. All I can suggest is to persevere and leave no financial stone unturned. In the long run you'll be glad you did." – **Lawrence M. (Larry) Austin, CPG-05181.**

Liability Issues

"WOW I can't even believe the question came up! It's like eliminating interships from a medical degree.... But unfortunately the question is all too valid. I am meeting a LOT of geology students who have never seen the field because of budget constraints yes, but also because of LIABILITY! Apparently they might trip and fall and sue the college - ergo it is safer to read a book.... I bet if we were able to meet we could spend a week telling stories about our "field scars" - TRUE? Where does this insanity end? Will we all be relegated to remote telemetry in the safety of our sterile labs? – **Melinda Hamsher, PG, MEM-1088.**

"Melinda: I agree completely: liability is a scourge of getting many things done, especially with field-based education of any sort. Liability with field camps, though, is a far more complicated beast than a student twisting an ankle. In 2003 one of UT-Austin's vans flipped over early on in field camp, killing a student and a professor (Geotimes, July 2003 has a story on it). In 1999 two students at IUGFS were killed when they lost control of a carry-all while free-wheeling and drunk on a Saturday night, which resulted in the field camp director constantly being in court or in legal meetings for the next two years, and a strict, bordering on draconian, enforcement of behavior at the next year's field camp, which I attended. Both of those situations were hell for all involved. Given that we've evolved into such a litigious society, it's no wonder a college administrator would look at how a field program is conducted in the light of the above incidents and want to shut it down, or modify it to the extent that it would be impractical to run. On countless fieldtrips and camps over the years I repeatedly witnessed students doing downright dangerous things they were told explicitly not to do (exploring abandoned mineshafts, freeclimbing fractured quarry walls above a large group, crossing 4 lanes of interstate traffic without looking, etc...). As an experienced field geologist myself, I look at this behavior and think to myself 'This is a lawsuit waiting to happen.'" – **Joe Kopera, Geologist, MEM-0953.**

This article needs to conclude with some of the "best" comments on the value of field camp, in terms of what it prepares us for when we get started in our careers in the "real world."

"I've seen an increasing trend among young geotechnical engineering professionals to do 'desktop studies' in preparation of extensive reports, and I always insert a word of caution to them that they cannot adequately address a site without a site visit. Desktop studies are great in the research phase or when planning for a field visit, but until you see the rock and get an assessment of site conditions, local geology, unique problems in the area, and the degree of competence of the workers doing the job, you really haven't addressed a problem adequately.

"Sometimes it's fairly simple. Any time it gets more complex than layer-cake geology of unweathered rock, you need to see WHAT is going on, and characterize it accurately and concisely.

"Field camp is an essential step in the educational process for refining young professionals into competent working professionals. Without it, substantial time is spent in training them into a mode of thinking and action which they don't understand." – **George H. Davis, CPG-10951.**

"I believe field camp and other field experience is more important now than ever because of the availability of computer programs and models. Engineers sometimes are frustrated that geologists cannot give an answer and then follow that with a 100% guarantee. I believe that frustration results from a lack of understanding regarding stratigraphic heterogeneity (I work primarily in Florida). I would be concerned if a geologist was conducting a modeling exercise without the benefit of field experience because he/she would likely not understand geologic complexity and the potential error in data used in their models." – **John Herbert, MEM-1252**.

The Future of Field Camp

So, where do we go from here? Re-reading the discussion thread for this paper has confirmed what my gut was telling me; field camp continues to be an essential component of the basic training that will (coupled with appropriate post-educational experience) yield a competent professional geologist. All too many of the postings, however, referenced situations that threaten the continuation of field camp training, for a variety of reasons. Larry Austin, CPG (quoted above) indicated that he is working with the AIPG Executive Committee to update the Institute's "Education for Professional Practice" white paper, that he will see to it that the consensus on the value of field camp is incorporated, and that it is the expectation of the Institute that field camp will continue to be required. I offered the suggestion to the group that all of us need to get involved with our colleges and universities and keep them advised of the necessity for intense field training of young geologists. Some AIPG members are involved with the organizations that accredit the undergraduate geology, hydrogeology, and geological engineering programs; that is a perfect avenue for strongly encouraging the schools to continue their programs. As of the date this article was prepared, there were between 45 and 50 replies to the original posting. The discussion continues at LinkedIn. I recommend that you seek it out and join in with your own comments and war stories.

1. The social media site "LinkedIn" (www.linkedin.com) has developed into a powerful tool for business networking. A few minutes is required to set up a basic profile for yourself, and to begin to build up a "network" of contacts. As time goes by, you will find yourself prompted to "complete" your profile, and to expand your network outward. Powerful search capabilities allow you to obtain contacts with a variety of professional interests literally anywhere in the country. One of the options for networking is to link yourself to a "group;" AIPG is one that is available. One of the options for a "group" is for one of its members to start a discussion thread on LinkedIn, to which other group members can reply.

This article was originally published in the Jan/Feb 2011 issue of TPG

CMS STUDENT TRAVEL AWARDS

The Clay Minerals Society (CMS) travel grant program is designed to provide partial financial support to graduate students to attend the annual meeting of the CMS to present results of their research. All student members of the Clay Minerals Society are eligible for the Travel Grant Program. See the CMS website for more information, http://www.clays.org/. Application deadline is 12 June 2011.

AIPG National Scholarship Program

Deadline February 15th

American Institute of Professional Geologists

Awarded the month of SEPTEMBER

Basis of Awards
Awards will be based on the content and creativity of the essays as judged by the Education Committee.

The decisions of the Education Committee are final.

Purpose

To assist students with college education costs and to promote student participation in the American Institute of Professional Geologists (AIPG). Up to four scholarships will be awarded to declared undergraduate geological sciences majors who are at least sophomores.

Scholarship Awards

Scholarships awards in the amount of $1,000 each will be made to eligible students attending a college or university in the U.S. Scholarships are to be used to support tuition and/or room and board.

Eligibility Requirements

Any student who is majoring in geology (or earth science), is at least a sophomore, and is attending a four-year accredited college or university in the U.S. can apply. Also, the student must be either a student member of AIPG or must have applied for student membership at the time the application for scholarship is submitted.

Each student that is awarded a scholarship agrees, by accepting the scholarship, to prepare a 600 to 800 word article for publication in *The Professional Geologist*. The subject of the article must be related to a timely professional issue.

Application Process

Applicants must submit: a letter of interest with name, mail and email addresses, and telephone number; proof of enrollment in an eligible geological sciences program, transcripts; an original one-page essay on why the applicant wants to become a geologist; and a letter of support from a faculty member familiar with the applicant's academic work. The application packet should be submitted to:

AIPG
Attn: Education Committee Chr.
12000 N. Washington St., Suite 285
Thornton, CO 80241

Phone: (303) 412-6205
Fax (303) 253-9220
aipg@aipg.org
www.aipg.org

Competence... Integrity... Ethics
Since 1963

UNESCO-Laura W. Bush Traveling Fellowship

The fellowship will help fund a proposal designed by the applicant to conduct brief work in a foreign country related to the mandate of UNESCO – using education, natural sciences, social and human sciences, culture, and/or communication and information to build strong ties among nations. The fellowship is intended for American college/university students who express an interest in international collaboration but as of yet had not been afforded many opportunities to travel abroad. The length of time for the travel is expected to be between 4 and 6 weeks and should include interaction with individuals from other nations. During his/her travel, the recipient should be willing to participate in public diplomacy events arranged with the pertinent U.S. State Department Consulate, Mission, and/or Embassy. Following the travel, the recipient agrees to submit a report describing experiences and analyzing objectives achieved; share his/her experiences with others; and be available to make a presentation at the Annual Meeting of the U.S. National Commission for UNESCO.

Funding for this fellowship has generously come from a private donation. Future distributions of the fellowship may rely on further donations to the Department of State.

Eligibility:

- Must be a U.S. Citizen eligible for foreign travel
- Must be at least 18 years old and not older than 25 at the time of application
- Must be currently enrolled in an accredited U.S. college or university in the United States

The Application Package:

All material must be submitted electronically to the U.S. National Commission for UNESCO Executive Secretariat (DCUNESCO@state.gov) by February 4, 2011 (5:00pm EST).

- Completed Application Coversheet (form DS-7646)
- One page summary of project, including items that help provide a concise, clear understanding of proposal, including:
- Goal/Objectives/Outcomes
- Timeline
- Budget, funding and plan for supplementary funding should it be needed to complete objectives (including letters of support or commitment, if relevant)
- Methodology for monitoring/evaluating success, and potential impact and sustainability
- Action plan/ideas for follow-on activities, public diplomacy
- Any relevant resources or photos
- Essay (up to 500 words, double spaced) explaining your interest in being considered for the award; how your proposed project reflects or is related to both UNESCO's mandate and America's interests in promoting peace by the sharing of advances in education, science, culture, and communications; and, finally, the potential impact of your project.
- Current resume
- Two letters of recommendation: one from an academic source and an additional source of the applicant's choosing
- Availability should you be called for an interview

Only applications complete at the time of the deadline will be considered. A subcommittee of the U.S. National Commission for UNESCO, which shall include a personal representative of Mrs. Laura W. Bush, will conduct an initial review of applications, conduct phone interviews as needed, and provide recommendations to the entire Commission. The Commission will then recommend the top candidate and up to three alternates to the U.S. government (via the Executive Secretariat of the U.S. National Commission for UNESCO within the Office of UNESCO Affairs at the Department of State). The Executive Director of the National Commission in the Office of UNESCO Affairs will determine the final recipient(s). The number of recipients and exact amount of money awarded will depend on the quality of applications and the funds available and may vary from year to year. Past awards have been between $1000 and $4000.

Evaluation Criteria:

- Originality and feasibility of proposal
- Quality of essay
- Apparent dedication to bridging nations, enlarging freedoms, and promoting democracy through one or more of UNESCO's fields of competence
- Performance during interview, if applicable

GeoVoices: Entering the Geoscience Working Community: Best Practices and What to Expect

Dr. Richard B. Schultz, CPG-10188

Because this issue is the Student Edition, it is pertinent to make a few recommendations targeted to tomorrow's geoscientific workforce. As most current students are probably aware, the vast majority of geoscientists work in the petroleum industry, mining industry, environmental firms, and some in government agencies. In the past, the petroleum industry had employed the largest number of geoscientists. Currently, in the neighborhood of 40% of geoscientists are employed in the exploration and production of fossil fuels[1]. The environmental industry, especially by way of consultants, now employs nearly 20% of geoscientists. While mining was once a dominate geoscience employer, today only about 10% of geoscientists work in private industry related to mining (Bureau of Labor Statistics, 2008). Alas, mining is not once what it was, but still remains an opportune industry for future employment for geoscientists since precious metals seem to be on the upswing with gold currently at record levels on world markets. Government agencies employ another 10% of geoscientists, including most oceanographers and atmospheric scientists, with those areas increasing in employment opportunities with time because of their highly technical nature and interdisciplinarity. Geoscientists in the government work in many different capacities, from pure research to the discussion and development of current policy. Another 5% of geoscientists work as educators, but that number may well increase with time as well. This opinion piece is geared specifically for those who are either thinking about a career in the geosciences in the future and/or those who are just about to enter into the field now and provides some best practices for current students as well as advise for those currently preparing to embark on a job search in a downturned economy.

Not unlike many other sciences and engineering-oriented fields, the geosciences have seen an increase in the diversity of the workforce. Today almost 20% of geoscientists are female with females beginning to be more prominently seen in the upper levels of management. The age distribution of the geosciences is strongly dependent on the industry examined. For example, the petroleum industry has a large number of geoscientists approaching retirement, as well as a saturation of workers in the 30-40 year old range as a result of past economic downturns. This is a unique opportunity for those currently entering into the workforce to capitalize on a worker shortage in the market. Emphasize technical skills and experience with such tools as GIS, which older workers may not possess.

The geosciences, not unlike engineering and other technical fields, remains a competitive market. However, there are a number of preparations students can make now to make themselves more marketable in a downturned economy. Respect authority and appreciating diversity are two principal traits that employers are seeking in their employees. Learn how to communicate effectively both in the written and spoken word and develop your people skills, particularly by developing and maintaining a personal network of contacts in your particular area of emphasis. Not only should students become members of professional organizations, but they should be active members and attend conferences on a regular basis to make themselves visible and known. One never knows about a looming internship or part-time project work opportunity and where it can be obtained. Being in the right place at the right time is half the battle, but one has to be "out there" in the first place. Seek out opportunities such as student chapters and serving as student members on committees. It goes without saying that displaying skill sets in terms of presenting research and/or striving to have it published represents a major arrow in the quiver of one's experience. Another strategic aspect of improving your marketability is to develop strong technical skills, especially in terms of geospatial skills[2] and identify a unique, but relevant, niche of expertise and skill sets that few others consider. Highlight your strengths and play to those. Don't de-emphasize your weak areas, but rather look at those as areas to better yourself and take every step through professional development to do that. View weaknesses as "opportunities" and convey this to a potential employer. Also the development of an understanding of the business issues of the company and industry in which you are looking to work conveys to the potential employer that you can hit the ground running when starting your new position. Understand the economic aspects of your discipline, particularly how the science is applied to add value to the company and the corporate "brand". Once you are involved in a company, work close to the foundations of the corporate mission and develop skills that are indispensable to the business, thus making your job non-disposable. Additionally, learn the statistical skills and quantitative background of your industry on both a local and global scale. People are hired in industry to help companies make money, save money and solve problems. Know how your background and your geoscientific abilities contribute to those goals. Realize that much of what you learned in school was not just textbook jargon, but the ability to think critically, analytically and hone your problem solving skills. All employers love good problem solvers and those who can "think outside the box."

Because of the multifaceted nature to the geosciences and the interdisciplinary spin, geoscientists are often exceptionally attractive to employers, attesting to the unique blend of analytical skills most geoscience training provides. The geosciences are not apurely quantitative science; it is still heavily dependent upon high level skills of observation, careful deductive reasoning, and interpretation

of complex data. These types of skills are often critical for effective problem solving in real world situations, even outside of the geosciences. Know that you have a multitalented skill set that can be indispensible to numerous employers and industries.

Above all else, be a team player. Everything nowadays is based on teamwork and providing your input into a larger project. The need to work collaboratively with others will always be a part of your career. Learn that now and hone your team skills. To have a successful career requires that you learn how to work effectively with in many different situations. Most work efforts are highly integrated, requiring the cooperation and input from a variety of workers in many disciplines. Understanding and appreciating different perspectives and work cultures is a skill that must be learned and implemented to be successful in today and in future workplaces.

We have all heard the term "globalization", but its effects are true today more than ever before. Celebrating other cultures and using others' input, who may come from a totally different perspective, is what can get you and the company you are working for, ahead in the long run. It is no longer a secret that we all live and work in a multi-cultural world. To be a part of a profession that is truly global in perspective requires that we understand and celebrate people different from ourselves. This effort needs to begin in school as a student and continue throughout one's life. The workforce is increasingly diverse, and although this requires challenges in understanding one another, it offers a rich source of new ideas and new perspectives on geoscience issues (AGI, 2010). The richness of diversity can be a major tool in collaborative, creative problem-solving, particularly when you may be the "outsider" in a project that is in a foreign country. There's no quicker way to make yourself valuable than speaking another language and being able to communicate with those in other lands.

According to the U.S. Department of Labor, Bureau of Labor Statistics, although employment growth will vary by occupational specialty, overall employment of geoscientists is expected to grow much more slowly than average for all occupations through 2014. However, due to the relatively low number of qualified geoscience graduates and the large number of expected retirements, opportunities are expected to be "good" in most sub-disciplines of the geosciences. Keeping in mind the skill sets and traits of an effective employee can be big step in landing that first job or moving up the corporate geoscientific ladder.

1. United States Department of Labor. 2009. Occupational Outlook Handbook. Office of Occupational Statistics and Employment Projections, Washington, D.C. See http://www.bls.gov/oco/ocos312.htm for 2010 information.

2 Schultz, R. B. 2008. Critical Thinking Skills and Information Literacy: Tools Future Geoscientists Must Possess: The Professional Geologist, March/April issue, p. 43-44.

This article was originally published in the Jan/Feb 2011 issue of TPG.

CMS REPORT FROM THE 2010 ANNUAL GSA MEETING

Kevin Murphy
Managing Editor, *Clays and Clay Minerals*
Paul Schroeder
President, The Clay Minerals Society

The Clay Minerals Society (CMS) was represented at the recent Geological Society of America meeting by President Paul Schroeder, and by the journal's Managing Editor, Kevin Murphy. With the help of Dick Berry, they manned the booth throughout the meeting and, as always, proved to be an enjoyable time. It's good to meet readers, members, librarians, industry consultants and others, who have an interest in the CMS and in our publications. Samples of Georgia kaolin, provided courtesy of the CMS, were a big hit with the passing traffic, and competed well with the candy/bottle-openers/dinosaur eggs available at other booths.

One of Kevin's roles at the conference was to attend two days of talks about the GeoScienceWorld (GSW) e-journal aggregate. This initiative includes Clays and Clay Minerals and involves some 38 other journals of not-for-profit publishers that continue to strengthen and buck global market trends by continuing to increase in popularity. The aggregate is now sold to 363 institutions worldwide. Not wishing to rest on their laurels, though, they spoke at length about how to improve the product, e.g. by providing a new map search interface instead of the simple lat/long approach currently employed. Also discussed was how social media might be used to our advantage and about the issues of Open Access (the latter being related to new stipulations by funding agencies that require free public access to publications resulting from sponsored research). The new model may be that "page creation fees" should be included as a line item in funding requests to facilitate Open Access. Did you know that Clays and Clay Minerals already has that as an option? Finally, GSW's technical partner, HighWire, discussed new programs to provide additional means for the publishers (and GSW) to back up their content using the LOCKSS and CLOCKSS facilities.

GSW has become an integral part, not only of our journal budgeting process, but also of our readership. We use the GSW continuous publication system to publish papers ahead of their appearance in print. 363 institutions provide many readers, some of who will not have used our journal before. Remember this when thinking about your next paper and where to publish it!

Regarding the technical program at GSA, it was exciting to see that the study of clays and clay minerals is still a basic underpinning to all of geoscience. Such a question as "were there clay minerals on Earth when it initially formed?" was making the headlines of keynote sessions. CMS stalwarts were present: just to name a few, Dave Bish lectured about clays on Mars and Lynda Williams about mechanisms by which Fe-bearing clays fight bacterial skin infections on humans. Many other CMS members gave presentations and a total of 84 abstracts that considered aspects of clay minerals were published. Please read the adjacent President's column about how CMS is making a difference not only at GSA, but at other larger scientific gatherings. CMS will be hosting a booth at GSA Minneapolis, MN next year, so if you plan to attend, please take time to visit and help serve at the CMS booth. Any suggestions for the free clay sample giveaway?

2011 IRIS/SSA Lectures Announced

Looking for an engaging talk for a general audience at a museum, university, and similar venue? How about: "Scientific and Humanitarian Aspects of the 2010 Haiti Earthquake" (Dr. Wayne Pennington) or "The New Madrid Earthquakes Two Hundred Years Later: What Have We Learned About Earthquakes at the Center of Tectonic Plates?" (Dr. Beatrice Magnani).

Visit http://www.iris.edu/hq/programs/education_and_outreach/distinguished_lectureship for more information on event locations, dates, topics and speakers.

Oil History Symposium and Fieldtrip: CALL FOR PAPERS

DEADLINE FOR ALL ABSTRACTS: MAY 1ST, 2011.

The Petroleum History Institute (PHI) and its co-sponsors are seeking papers, both oral and poster presentations, for the Symposium and Fieldtrip meeting to be held at Marietta, Ohio, June 23-25, 2011. The Symposium will be held on Friday, June 24th, and authors can request either the morning or afternoon sessions. Unless otherwise requested, the oral presentations will be limited to 30 minutes, including a short Q & A. Poster presentations will be mounted on Thursday afternoon and will stay available to the participants until Friday afternoon.

We especially welcome papers about the history of the oil and gas industry in the Ohio-West Virginia regions, but also welcome papers on any subject related to the industry. Authors of accepted papers are strongly encouraged to submit their manuscripts for inclusion in the 2011 issue of Oil-Industry History, the only peer-reviewed professional journal devoted exclusively to the history of the international oil and gas industry. For more information, please contact: wbrice@pitt.edu

Please submit abstracts (600 words or fewer) to: W. R. Brice, Editor, Oil-Industry History, 116 Luna Lane, Johnstown, PA 15904; or electronically (MSWord file) to: wbrice@pitt.edu. For More information visit http://www.petroleumhistory.org/symposium.html.

CUR Dialogues

February 24-26, 2011 Hamilton Crowne Plaza, Washington, DC

CUR Dialogues is designed to bring faculty and administrators to Washington, DC, to interact with program officers of federal agencies and other grant funders.

Workshops and plenary sessions will:Tell participants about new and ongoing grant opportunities in research and education; .help faculty learn how to find new funding opportunities; .help faculty develop skills for writing grant proposals.

Participants will: Meet in small groups and talk with program officers and grants-management officers from federal agencies, including the National Science Foundation, the National Institutes of Health, the National Endowment for the Humanities, the National Endowment for the Arts, and the Department of Energy.; .share ideas with colleagues.

In addition, CUR Dialogues provides a setting for funders to learn about the interests, needs, and concerns of researchers and educators regarding funding. Past CUR Dialogues have spawned many ideas for grant programs and have helped agencies to refine their program guidelines.

Who should attend: Faculty at all career stages; undergraduate-research directors; grants administrators; development officers.

For information concerning the event visit http://www.cur.org/11curdialogues/11cd.html .

The Geological Society of America announces Commemoration of its 125th Anniversary in 2013

"Celebrating Advances in Geoscience — Our science, our societal impact, and our unique thought processes"

Several celebratory activities are in the works, including a 125th Anniversary expedition to Antarctica—one of Earth's most dynamic ecosystems—with a field and lecture program designed for both the professional scientist and anyone with an interest in the planet, its life and future.

Scientific Leader: Ian Dalziel, the University of Texas at Austin

Expedition Leader: Ted Cheeseman, Cheeseman's Ecology Safaris

Additional Lecturers and Field Leaders include Prof. Richard Alley, Pennsylvania State University, Prof. Rob Dunbar, Stanford University, and Prof. Rudolph Trouw, Federal University of Rio de Janeiro, Brazil

GSA members and friends are invited take part in this trip of a lifetime, 28 Dec. 2012–20 Jan. 2013, aboard the M/V Marina Svetaeva. Space is limited. For details, call 800-527-5330 and ask about the JSG/GSA Antarctic tour, or check out the website at: http://www.cheesemans.com/gsa.

The National Map Users Conference Call for Abstracts

The U.S. Geological Survey has issued a Call for Abstracts to support The National Map (TNM) Users Conference, and the Geographic Information Science Workshop to be held May 10-13, 2011 in Lakewood, Colorado.

This inaugural event will assemble a wide range of participants including scientists, managers and geospatial professionals from government, industry, academia and other organizations with the goal of sharing accomplishments and progress, acknowledge best practices, and exchange innovative ideas concerning The National Map in supporting science initiatives. The role of the GIS Workshop will be learning specific techniques for using GIS in support of science. Interactive dialog will be encouraged through panel and lightning sessions, poster presentations, workshops, and demonstrations.

For more information and abstract submission: http://nationalmap.gov/uc.

Registration details and final hotel arrangements are currently being worked out, and will be posted to the website soon. Registration is not required to submit an abstract. The submission for the call for abstracts closes on January 31, 2011.

Announcing GSA Joint Specialty Meeting

The Geological Society of America (GSA) with Geologische Vereinigung e.V. and Deutsche Gesellschaft für Geowissenschaften are hosting "FRAGILE EARTH: Geological Processes from Global to Local Scales, Associated Hazards and Resources" in Munich, Germany September 4-7, 2011. For more information visit http://www.geosociety.org/meetings/2011munich/.

AEG Annual Meeting Announcement

Attend the 34th IGC

This large and prestigious Geoscience World Congress will be held at the Brisbane Convention and Exhibition Centre, 5-10 August 2012. The scientific program will cover all aspects of the geosciences. It will demonstrate how geoscience knowledge and applications are contributing directly to meeting societal needs, for example through innovation in the resources and energy based industries, better informed land and water management, enhanced understanding and mitigation of climate change and geohazards, and building major cities and infrastructure.

The 34th IGC will incorporate the 2012 meetings of IUGS' Commissions, Task Groups and Joint Programs, as well as the 2nd Young Earth-Scientists (YES) Congress.

We invite all geoscience groups internationally to consider integrating their 2012 meetings into the 34th IGC, to benefit from the opportunities it offers for synergies and networking.

There will be about 40 pre and post Congress field trips offered, and a major exhibition. The GeoHost support program for delegates from low income nations will be linked to participation in training workshops. The 34th IGC will feature a major Theme dedicated to geoscience benefiting low income nations, and we are expecting to receive UNESCO patronage – these factors should assist other delegates from developing nations in their applications to international funding agencies for support to attend the Congress.

We extend a very warm invitation to the 34th IGC in Brisbane – an exciting sub-tropical city characterised by great August weather and the gateway to some of Australia's most famous tourist destinations.

The committee acknowledges that the congress will occur during Ramadan and regrets the inconvenience this will cause some delegates. Special arrangements will be made during the congress to assist the observance of Ramadan.

Visit the Congress website at http://www.34igc.org/ to be added to the email list, learn more details about the event, view information about travel and much much more!

We look forward to seeing you in 2012.

SSA To Commemorate the New Madrid Earthquakes

2011 marks the start of the bicentennial of the remarkable New Madrid earthquakes of 1811-1812 and the arrival of the Transportable Array element of EarthScope's USArray in the region. The Seismological Society of America (SSA) will inaugurate a year of commemorative activities and conferences commemorating these earthquakes with its 2011 Annual Meeting in Memphis, April 13-15. One focus of this annual meeting will be the seismotectonics and hazards found in continental interiors with regional emphasis on cratonic North America. Topics of interest may include the stress state of intraplate regions, large scale lithospheric structure from active and passive source experiments, geodetic models for earthquake genesis and glacial rebound, paleoseismicity studies in intraplate source zones, urban earthquake hazards, issues related to siting nuclear or other critical facilities, and emergency management issues associated with intraplate earthquakes. Further information is available at: http://www.seismosoc.org.

SSA meetings typically include sessions across the broad fields of earthquake science, geotechnical and earthquake engineering and seismology, including paleoseismology, Earth structure, explosion monitoring, nonvolcanic tremor and slow slip, earthquake and other seismic source processes, seismoacoustics, non-linear seismic wave propagation, topography and basin effects, controlled source experiments, and hazard analysis.

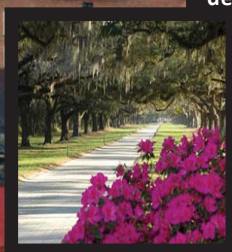
EEGS 2011 Meeting Announcement

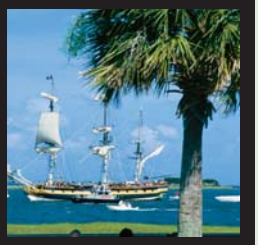
SAVE THE DATE!

Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP)

Come to SAGEEP 2011 and be part of this historic event! This year's conference, held on the sesquicentennial of the first shots of the United States Civil War at nearby Fort Sumter, will feature a Keynote Address by Dr. John M. Reynolds, author of the popular text "An Introduction to Applied and Environmental Geophysics". More than 250 abstracts have been received for a technical program that will be comprised of four concurrent sessions. Three special sessions are being held, along with several developed in conjunction with SEG and AGU. The University of Texas' T-Rex vibroseis truck will be on site for a liquefaction simulation demonstration. Several educational short courses and workshops will be offered, along with numerous vendor presentations and a commercial exhibition.

Access the web site for full program listings and details. Conference registration opening soon.





www.EEGS.org/SAGEEP2011

Please address any questions to:
Dr. William Doll, General Chair (dollw@battelle.org) or
Dr. Gregory Baker, Technical Chair (gbaker@tennessee.edu)

AGU Congressional Science Fellowship Application Open

The recent mid-term election will bring change to the next session of the U.S. Congress. As a scientist, you can help shape the future of science policy during the next session by working in a congressional office. AGU sponsors two Congressional Science Fellows who spend one year, from September through August, in either the personal office of a Senator or Representative or on a House or Senate committee in the U.S. Congress. Fellows serve as a staff member in offices and their responsibilities may include writing legislation, preparing congressional hearings, meeting with lobbyists and constituents, and more.

AGU is now accepting applications for its 2011–2012 Congressional Science Fellowship. The program is seeking applicants who are articulate, flexible, and able to work well with people from diverse backgrounds. A broad background in science is a bonus as Fellows often advise on a wide range of scientific topics. All AGU members who are citizens or permanent residents of the United States are invited to apply. While the Fellowship is aimed at early to mid-career Earth and space scientists with PhDs, the program places no restriction on age, educational or career level, or on specific scientific backgrounds. Experience in public policy is not required, but such experience and/or an interest in using science to solve public problems is desirable. The Fellowship carries a stipend of $60,000 as well as health insurance, moving expenses, and a travel allowance. The deadline for applications is 1 February 2011.

For further details and application instructions, please visit the AGU website or contact Elizabeth Landau at elandau@agu.org or at +1.202.777.7535. AGU also encourages members to apply for Congressional Science Fellowships with the American Geological Institute and the American Institute of Physics, as AGU members are eligible for these fellowships as well.

To apply, please visit https://www.agu.org/inside/fellows/congressional_application.php.

America COMPETES Reauthorization Passes Congress

On December 21, Congress approved of the re-authorization of the America COMPETES Act (H.R. 5116), which authorizes increases for research at the National Science Foundation, the National Institute of Standards and Technology and the Energy Department's Office of Science. Authorizations for nuclear energy and hydrocarbon systems workforce initiatives were retained in the final version. The Senate revised the House-initiated measure and reduced funding levels as well as cutting the authorization time frame from five years to three years. The changes reduced the overall cost of the measure.

The act requires the White House Office of Science and Technology Policy to coordinate and organize public access to government-funded research, including the development of online databases of scientific information within agencies. Congress included a statement recognizing the role of scientific publishers in the peer-review process, however, non-profit science societies will need to consider the impacts of this legislation on the quality and value of their long-standing journals.

The reauthorization details many science, technology, engineering and mathematics (STEM) education initiatives at NSF, NIST and DOE. COMPETES provides support and prescribes direction for the Energy Department's Advanced Research Projects Agency-Energy (ARPA-E) and for Energy Innovation Hubs. The measure also includes a nanotechnology initiative and reforms the High Performance Computing Act of 1991 – both should be of interest to the geosciences community, which develops and uses some of these technologies.

United Nations Climate Change Meeting in Cancun

Negotiators from 194 countries met in Cancun Mexico for the 16th session of the Conference of the Parties (COP 16) to the United Nations Framework Convention on Climate Change (UNFCCC) from November 29 to December 10, 2010. The parties reached two major agreements (called the Cancun Agreements). First, nations agreed to keep the average global temperature rise below 2 degrees Celsius above pre-industrial levels and acknowledged that this effort requires more than the emissions reduction pledges by the U.S., China and others at the Copenhagen meeting (COP 15). Second, nations pledge to establish a $100 billion annual fund to promote adaptation and clean energy in developing nations. A few details of particular interest to the geosciences include an agreement to establish a program to preserve forests (i.e., reducing emissions from deforestation and forest degradation, REDD) and to establish guidelines for carbon capture and geological sequestration.

Join Us for Congressional Visits in April and September

Decision makers need to hear from geoscientists. Become a citizen geoscientist and join many of your colleagues for a workshop on conducting congressional visits followed by a day conducting visits with Members of Congress or congressional staff on Capitol Hill in Washington DC.

The visits will focus on the importance of geoscience research and development and geoscience education. Geoscientists will speak for these shared concerns with a unified message and can enhance the message by using examples from their professional work and experiences. The Science-Engineering-Technology Congressional Visits Day (SETCVD) will be on April 6-7, 2011 and the Geosciences Congressional Visits Day (GEOCVD) will be in September, 2011. Contact AGI at govt@agiweb.org to sign up for visits or go to http://www.agiweb.org/gap/index.html for more information.

Congressional Fellowship Opportunity: Apply by February First

The American Geological Institute is accepting applications for the 2011-2012 William L. Fisher Congressional Geoscience Fellowship. The successful candidate will spend 12 months (starting September 2011) in Washington working as a staff member in the office of a member of Congress or on a congressional committee. The fellowship represents a unique opportunity to gain first-hand experience with the federal legislative process and make practical contributions to the effective and timely use of geoscientific knowledge on issues relating to the environment, resources, natural hazards, and federal science policy.

The AGI Fellow will join more than two dozen other scientists and engineers for an intensive orientation program on the legislative and executive branches, organized by the American Association for the Advancement of Science (AAAS), which also guides the placement process and provides educational and collegial programs for the fellows throughout the year.

Several of AGI's member societies sponsor Congressional Science Fellowships. For further information, visit the American Geophysical Union, the Geological Society of America, or the Soil Science Society of America. AAAS offers a number of fellowships for Congress and the executive branch. The American Institute of Physics (AIP) offers congressional and State Department fellowships. AGU is a member society of AIP, so AGU members are eligible for the AIP fellowships. It is acceptable to apply to more than one opportunity. Stipends, application procedures, eligibility, timetables, and deadlines vary, so please visit the websites soon for more information.

For more information on the William L. Fisher Congressional Geoscience Fellowship including information on how to apply, please visit http://www.agiweb.org/gap/csf/index.html .

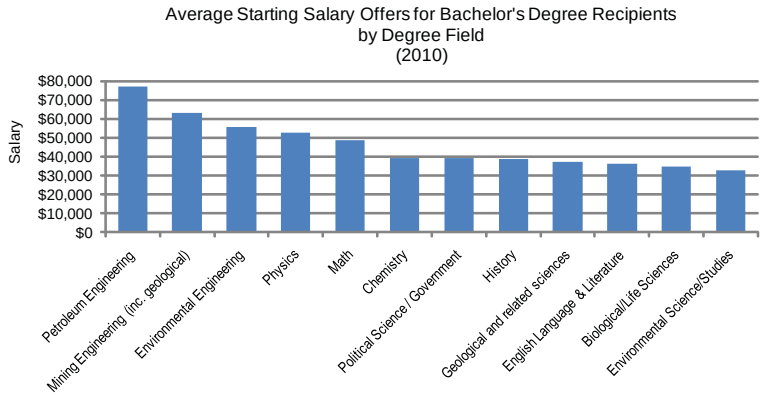
Receive AGI Government Affairs Monthly Reviews.

The AGI Government Affairs Monthly Review goes out to the leadership of AGI's member societies, members of the AGI Government Affairs Advisory Committee, and other interested geoscientists as part of a continuing effort to improve communications between GAP and the geoscience community. The current monthly review and archived monthly reviews are all available online at http://www.agiweb.org/gap/email/index.html. You can subscribe to these monthly mailings and Action Alerts by emailing govt@agiweb.org and include the subject line "Subscribe to Monthly Review."

American Geological Institute
GEOSCIENCE CURRENTS
No. 40
10 December 2010

Geoscience Starting Salaries for 2010 Graduates

According to data collected by the National Association of Colleges and Employers in their 2010 Fall Salary Survey, starting salary offers for geoscience graduates were highest for those graduating with geoscience-related engineering degrees (e.g. petroleum engineering, mining engineering, and environmental engineering). Geoscience-related engineering bachelor's graduates received average salary offers ranging between $55,491 for environmental engineering to $77,278 for petroleum engineering graduates. Geological and related sciences bachelor's degree recipients average salary offers were $37,431 which was on par with chemistry and some humanities disciplines (e.g. History, English, and Political science), and more than $10,000 lower than graduates from Mathematics ($48,499) and Physics disciplines ($52,487).



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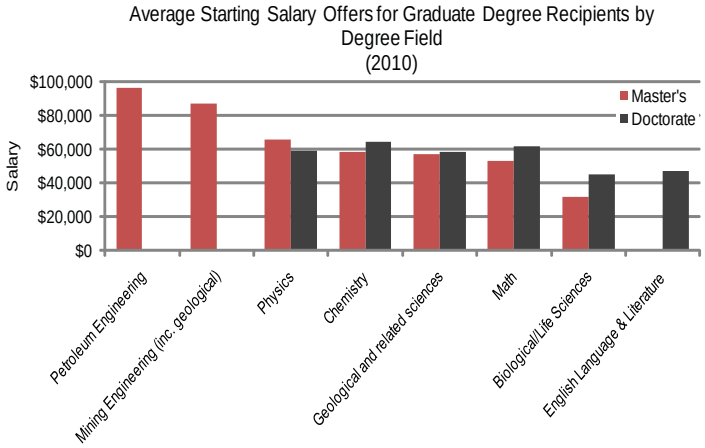
A Master's degree is required for most geoscience occupations. Starting salary offers in 2010 for geological and related sciences averaged $56,689 for Master's degree recipients and $58,625 for doctorates. In geoscience-related engineering disciplines, salary offers for Master's degree recipients ranged from $86,769 for mining engineering to $96,000 for petroleum engineering.



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- Leila Gonzales

GeoCalendar

Below is a list of meetings and events in the geosciences. To view the complete GeoCalendar or to submit your own meetings, workshops, or event n otices please visit http://www.agiweb.org/calendar/.

February 2011

- 2 Feb - 4 Feb 2011: East African Petroleum Conference and Exhibition. Kampala, Uganda East African Community Secretariat. http://www.eac.int/energy/

- 2 Feb 2011: Environmental Health: Understanding the Role of the Environment in Human and Wildlife Health . U.S. Geological Survey, 12201 Sunrise Valley Drive . Reston, VA, United States. U.S. Geological Survey. http://www.usgs.gov/public_lecture_series/

- 12 Feb 2011: Annual Friends of Mineralogy Symposium. Tucson Convention Center. Tucson, Arizona, United States. Friends of Mineralogy. http://www.friendsofmineralogy.org/symposia.html

- 13 Feb - 18 Feb 2011: ASLO 2011 Aquatic Sciences Meeting. Puerto Rico Convention Center. San Juan, Puerto Rico. American Society of Limnology and Oceanography. http://www.aslo.org/meetings/sanjuan2011/

- 23 Feb - 25 Feb 2011: New and Emerging Plays in the Eastern Mediterranean. Burlington House, Piccadilly. London, United Kingdom. http://www.geolsoc.org.uk/gsl/op/edit/groups/specialist/petroleum/page7792.html

March 2011

- 3 Mar 2011: Unconventional Resources have Unconventional Reporting: True or False? Burlington House, Piccadilly. London, United Kingdom. http://www.geolsoc.org.uk/gsl/op/edit/groups/specialist/petroleum/page7644.html

- 21 Mar - 24 Mar 2011: 19th Caribbean Geological Conference. Salako Hotel Conference Center. Le Gosier, Grand Terre, Guadeloupe. Laboratoire de Recherche en Geosciences et Energie. http://www2.univ-ag.fr/cgc2011/CGC-2011.html

- 27 Mar - 30 Mar 2011: International Symposium on Collaborative Engineering and Science: isCES 2011. Doubletree Resort Orlando. Orlando, Florida, United States. International Institute of Informatics and Systemics. http://www.iiis2011.org/iceme/website/AboutConfer-isCES.asp?vc=32

- 28 Mar - 30 Mar 2011: Marcellus Shale Gas Environmental Summit. TBA. Pittsburgh, PA, United States Oil and Gas IQ. http://www.shalegasevent.com

April 2011

- 10 Apr - 14 Apr 2011: Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP) 2011. . Charleston, South Carolina, United States. Environmental and Engineering Geophysical Society. http://www.eegs.org/sageep/index.html

- 10 Apr - 13 Apr 2011: 2011 AAPG Annual Convention and Exhibition. George R. Brown Convention Center. Houston, Texas, United States. American Association of Petroleum Geologists. http://www.aapg.org/houston2011/

- 11 Apr - 14 Apr 2011: International Conference on the Status and Future of the World's Large Rivers. Austria Center Vienna. Vienna, Austria. BOKU - University of Natural Resources and Applied Life Sciences, Vienna. http://worldslargerivers.boku.ac.at/wlr/

- 13 Apr - 15 Apr 2011: SSA Annual Meeting. Memphis Marriott Downtown Hotel and the adjacent Memphis Cook Convention Center. Memphis, TN, United States. Seismological Society of America. http://www.seismosoc.org/meetings/2011/index.php

- 19 Apr 2011: Professional Development Conference: An Overview of Contaminated Site Investigation and Remediation. Kentucky Geological Survey, Well Sample and Core Library. Lexington, Kentucky, United States. American Institute of Professional Geologists. http://ky.aipg.org/Announcements.htm

May 2011

- 1 May - 3 May 2011: 19th Williston Basin Petroleum Conference and Expo. Saskatchewan Trade and Convention Centre, Delta Regina Hotel. Regina, Saskatchewan, Canada. Saskatchewan Ministry of Energy and Resources, North Dakota Department of Mineral Resources, North Dakota Petroleum Council. http://www.wbpc.ca/

- 3 May - 8 May 2011: GeoInformation for Disaster Management. Talya Convention Center. Antalya, Turkey. ISPRS. http://www.gi4dm2011.org/

- 5 May - 6 May 2011: Life and the Planet. The Geological Society of London. London, United Kingdom The Geological Society of London. http://www.geolsoc.org.uk/events

- 8 May - 11 May 2011: Pacific Section AAPG Annual Section Meeting. Anchorage, AK, United States http://www.psaapg.org

- 9 May - 13 May 2011: 2011 CSPG CSEG CWLS Convention: recovery - energy, environment, economy . Calgary TELUS Convention Centre. Calgary, Alberta, Canada. Canadian Society of Petroleum Geologists. http://www.geoconvention.com/

- 15 May - 17 May 2011: The 47th Forum on the Geology of Industrial Minerals. University of Illinois. Urbana-Champaign, IL, United States. Forum on the Geology of Industrial Minerals, Inc. http://www.isgs.illinois.edu/sections/indust-min/im-home.shtml

- 22 May - 25 May 2011: CIM Conference and Exhibition 2011. Palais des congres de Montreal. Montreal, QC, Canada. http://www.cim.org/montreal2011/

- 25 May - 27 May 2011: GAC-MAC-SEG-SGA Annual Meeting. University of Ottawa. Ottawa, Ontario, Canada. Society of Economic Geologists, Geological Association of Canada, MAC, Society for Geology Applied to Mineral Deposits. http://www.gacmacottawa2011.ca/welcome.html

- 29 May - 30 May 2011: 2011 GIA International Gemological Symposium. GIA's World Headquarters and Robert Mouawad Campus. Carlsbad, California, United States. Gemological Institute of America. http://www.gia.edu/symposium/

June 2011

- 16 Jun 2011: 22nd Petroleum Group Annual Dinner. Natural History Museum. London, United Kingdom http://www.geolsoc.org.uk/gsl/op/edit/groups/specialist/petroleum/page8013.html

- 19 Jun - 25 Jun 2011: 11th International Multidisciplinary Scientific GeoConference and Expo. Flamingo Grand Congress Centre. Albena, Bulgaria. MINISTRY OF ENVIRONMENT AND WATER. http://www.sgem.org/

- 23 Jun - 25 Jun 2011: Oil History Symposium . The Lafayette Hotel. Marietta, Ohio, United States. Petroleum History Institute, Ohio Oil & Gas Energy Education Program, Ohio Oil & Gas Association, Ohio Geological Survey, Ohio Geological Society, Ohio Chapter of SPE,S outheastern Ohio Oil and Gas Association, Marietta College. http://www.petroleumhistory.org

- 26 Jun - 28 Jun 2011: RMCMI 107th Annual Meeting and Convention. Keystone Resort and Conference Center. Keystone, Colorado, United States. http://www.rmcmi.org/index.cfm/ID/32/Meetings/

STATE UNIVERSITY OF NEW YORK, COLLEGE AT ONEONTA
DEPARTMENT OF EARTH SCIENCES

ASSISTANT PROFESSOR-PALEONTOLOGY/BIO-STRATIGRAPHY/SEQUENCE STRATIGRAPHY

The SUNY College at Oneonta invites applications for a tenure-track position as an Assistant Professor in Geology, with specialization in paleontology beginning August 2011. The initial appointment will be for two years. The expectations include teaching, research, student advisement, college service, and continuing professional development. The College at Oneonta has 5,800 students and 450 faculty and offers over 60 undergraduate majors and 9 graduate programs. The student to faculty ratio is approximately 17:1. In the U.S. News rankings of "America's Best Colleges 2011," SUNY Oneonta received its highest ranking ever: 9th among public colleges and 3rd for undergraduate teaching among master's-granting universities in the North.
The nine-member Earth Sciences Department is multi-disciplinary with undergraduate programs in geology, water resources, earth science, earth science education, environmental earth science, and meteorology. There is also a small master's degree program. The department has a strong history of excellence in teaching, faculty-student mentoring, and continued contact with alumni. The department strongly encourages its faculty to conduct/supervise research projects that involve undergraduates. For additional information about the College or Department please visit http://www.oneonta.edu or http://www.oneonta.edu/academics/earths.

Duties: Teach undergraduate courses in paleontology, Earth history, stratigraphy/sequence stratigraphy, as well as various courses in introductory geology, introductory earth science and other courses as appropriate. Advise and mentor undergraduate students. Conduct research, scholarly activity or other appropriate professional development. Service on college/departmental committees is also expected.

Required Qualifications: Ph.D. at time of appointment. Applicants must have a strong background in paleontology.

Preferred Qualifications: Strong interest in conducting research with undergraduate students. Field-oriented approach to teaching. Additional expertise in sequence stratigraphy/integrated stratigraphy, evolutionary dynamics, basin analysis or geoscience education (formal or informal (e.g., museum experience) is desirable. Expertise in shale gas prospects is especially desirable. Expertise in paleoecology or mid-Paleozoic biostratigraphy. Experience with diverse populations

and/or teaching pedagogies and/or multicultural teaching experience.

To Apply, Go To: http://oneonta.interviewexchange.com/candapply.jsp?JOBID=22883.

Upload application letter, resume, statements of teaching philosophy and research interests and scanned copies of graduate transcripts (official transcripts required at time of appointment). Please have three professional references send letters to: Dr. James R. Ebert, Chair, Search Committee, Earth Sciences Department, SUNY Oneonta, Oneonta, NY 13820-4015. Applications will be accepted until March 21, 2011. Review of applications will begin immediately. For other employment and regional opportunities, please visit our website at: http://www.oneonta.edu/admin/humres/Employment_Opp/.

SUNY Oneonta values a diverse college community. Please visit our website on diversity at: www.oneonta.edu/navigation/diversity.asp. Moreover, the College is an EEO/AA/ADA employer. Women, persons of color, and persons with disabilities are encouraged to apply.

UNIVERSITY OF KANSAS

The KU Biodiversity Institute seeks a full time, non-tenure track, assistant or associate specialist (collection manager) to oversee its world-class collections of invertebrate fossils. Required qualifications include master's degree in museum studies, geology, systematics, or paleontology, 5 yrs experience in museum collections, knowledge of invertebrate fossil taxonomy and identification, knowledge of care and management of natural history collections, and familiarity with biodiversity informatics. Those with a bachelor's in museum studies, who can demonstrate thorough training in invertebrate paleontology collection management, may waive the required 5 years of experience. For additional information and complete application instructions please visit https://jobs.ku.edu, position #00005310. Review begins 1 Feb. 2011. EO/AA.

STATE UNIVERSITY OF NEW YORK at BINGHAMTON
ASSISTANT PROFESSOR, GEOMICROBIOLOGY

Binghamton University seeks applications for a tenure-track assistant professor in the area of geomicrobiology. We seek exceptional candidates whose research is focused on microbial influences on the Earth's biosphere, atmosphere, hydrosphere and solid Earth, past and present. Areas of interest include but are not limited to: microbial processes affecting cycling of elements (carbon, sulfur); long-term preservation of biomaterials and biomarkers; origin and evolution of microbial life on Earth, and extreme environments on Earth and beyond.

The successful candidate must develop and sustain an internationally recognized, externally funded research program in geomicrobiology. We also expect the candidate to develop a strong record of teaching and mentoring students and teach undergraduate and graduate courses in geobiology and other topics in his/her area of expertise. We are seeking candidates who will strengthen existing research programs in geochemistry and Earth surface processes with the potential to interact with geologists, biologists and environmental scientists on the Binghamton University campus.

Candidates must have a Ph.D. with a focus in geomicrobiology, or a related field, at the time of appointment, and should send a letter of application, curriculum vitae, statements of research and teaching interests, and names and contact information of at least three references by e-mail to cslavets@binghamton.edu, or by mail to: Search Committee, Department of Geological Sciences and Environmental Studies, State University of New York at Binghamton, Binghamton New York 13902. For further information about the position, visit the Geological Sciences and Environmental Studies website (www.geology.binghamton.edu) or contact Professor Tim Lowenstein by e-mail: lowenst@binghamton.edu.

Women and minorities are encouraged to apply. Binghamton University is an equal opportunity/affirmative action employer. Applications will be considered until the position is filled, but priority will be given to those received by January 15, 2011.

American Institute of Professional Geologists (Kentucky Section)

Presents a Professional Development Conference

"An Overview of Contaminated Site Investigation and Remediation"

SCHEDULE: **Tuesday, April 19, 2011 7:45 AM – 5:00 PM**

LOCATION: **Kentucky Geological Survey, Well Sample and Core Library**
2500 Research Park Drive
Lexington, Kentucky 40511

Detailed information on the conference can be found at http://ky.aipg.org/Announcements.htm

DESCRIPTION: The conference will focus on innovative assessment and remediation technologies being used in the environmental field. Case studies include petroleum hydrocarbons and chlorinated solvents sites. Presenters include private consultants, regulatory personnel, and contractors. Attendees can earn eight personal development hours of continuing education. Documentation on attendance and conference content will be provided at the end of the conference, if desired.

Name: _____

Employer: _____
_
Address: _____

City/State/Zip: _____

Telephone: (____) _____ Fax Number (____) _____ E-Mail _____

REGISTRATION: STANDARD - $100 AIPG MEMBERS $75, STUDENTS $20, STUDENT AIPG MEMBERS FREE
After April 1, 2011: Standard Registration fee $125; AIPG Members $100.

SPONSORS: Fee of $150 entitles you to one free registration. Send an electronic copy of company logo and contact information will be placed in the attendees' notebook.

METHOD OF PAYMENT:
Company Check #: _____ Personal Check #: _____ _____
Make checks payable to AIPG Kentucky Section (all funds go to AIPG)

MAIL TO: Kentucky Section - AIPG, P.O. Box 24690, Lexington, KY 40524
Phone: 270.925.6636 E-Mail: jfhoward89@hotmail.com

REFUNDS AND CANCELLATIONS:
All cancellations must be received in writing and sent to AIPG, Kentucky Section, by mail or e-mail. Phone cancellations are not accepted. All cancellations postmark-dated by April 1, 2011, will receive a REFUND minus a 25percent administrative fee. After April 1, 2011, registrants are no longer eligible for refunds; however, substitutions are welcome. Call (270.925.6636 for substitutions. NO REFUND FOR REGISTRANTS WHO FAIL TO ATTEND.

NEW MEXICO BUREAU OF GEOLOGY & MINERAL RESOURCES, DIRECTOR

The New Mexico Bureau of Geology and Mineral Resources is seeking a new director and state geologist. The bureau is a research and service division of the New Mexico Institute of Mining and Technology (New Mexico Tech), located in Socorro, New Mexico. With close to 60 employees, the bureau serves as the state geological survey, with a long-standing reputation for excellence in research, service, and outreach. Our mission includes research on the geologic framework of the state, with an emphasis on applied geosciences and the state's geologic resources; and the gathering, preservation, and dissemination of geologic information to the geoscience community, state and federal agencies, and the general public. The director manages the administrative, personnel, and financial affairs of the bureau, including direct supervision of a significant portion of the professional staff, and must be proactive in seeking additional, external funding to support new and ongoing programs. As a division of the university, the bureau works in collaboration with other divisions of the university. The director reports directly to the university president. As state geologist, the director serves on several state advisory commissions. Requirements include a Ph.D. in the geosciences, ten years of professional experience, and five years of administrative experience. Anticipated appointment date: July 1, 2011. Salary: Negotiable. Full details of the position and information regarding application procedures may be found at www.geoinfo.nmt.edu/DirectorSearch and at www.nmt.edu/hr-jobs-at-nmt. For more information about the application process, contact JoAnn Salome in Human Resources at 575-835-5955 (JSalome@admin.nmt.edu). For more information about the position itself, contact L. Greer Price, search committee chair, at 575-835-5752 (gprice@gis.nmt.edu). For full consideration, application materials must be received by March 1, 2011.

DESERT RESEARCH INSTITUTE,RENO, NV
POSTDOCTORAL FELLOW
NEAR-SURFACE GEOPHYSICS

The Division of Earth and Ecosystems (DEES) Sciences of the Desert Research Institute (DRI) is seeking a Postdoctoral fellow to conduct research in the general areas of in near-surface applied geophysics as related to soil science and hydrology. The research objectives of this position are to (1) apply advanced geophysical technologies to investigate soil properties, (2) develop and deploy instrumentation associated dielectric and thermal sensors, and (3) develop conceptual and numerical models associated with the soil system and electromagnetic (EM) propagation.

Required Qualifications: 1) Ph.D. in geophysics, hydrology, soil science, geology, or electrical engineering; 2) demonstrated experience with applied near-surface geophysics; 3) ability to define and conduct high-quality research as part of a large dynamic group.

Desired Qualifications: 1) Experience collecting and processing ground-penetrating radar, electromagnetic induction and/or electrical resistivity measurement; 2) EM or radio frequency propagation through soils in a variety of climatic settings.

For full position details and to apply online, visit http://www.jobs.dri.edu.

The following materials will be required to submit when you apply on-line: 1) current curriculum vitae; 2) a cover letter describing prior research experience; 3) a statement addressing research interests and goals; 4) contact information for three professional references; and 5) copies of relevant publications.

DRI is an AA/EEO employer.

PETROGRAPHER

Simpson Gumpertz & Heger (SGH) is actively recruiting an experienced candidate for a position as Petrographer/Consultant in our Waltham, MA office. SGH is a nationally known civil and structural engineering firm that works in all aspects of design, investigation, and rehabilitation of structures. At SGH, petrographers provide front-line collaborative support to our investigative teams as well as for external clients, including other engineering firms. The successful candidate will work on investigations of concrete, masonry, stone, and related construction materials.

Applicants should have at least 10 years of experience with stone and concrete petrography; meet the requirements of ASTM C856 and C295; and understand the use of supplemental testing and analytical techniques such as XRD, IR, SEM/EDS, and chemical testing. Exceptional communication skills, experience in research and investigations, and a demonstrated ability for managing and developing staff are also required skills.

To learn more about SGH and to apply for this position, please visit our website at www.sgh.com or e-mail your resume to Stella Mereves-Carolan, Corporate Recruiter at smereves-carolan@sgh.com or Apply online at www.sgh.com.

ASSISTANT PROFESSOR
BIOLOGY, EARTH SCIENCES OR MARINE SCIENCES
DISCIPLINE-BASED EDUCATION RESEARCH
FULL-TIME TENURE-TRACK POSITION

The University of Maine invites applications for a full-time tenure-track faculty position at the Assistant Professor level in Biology, Earth Sciences, or Marine Sciences, with expertise in discipline-based education research. The appointment will be based in one of these academic units, with membership in the Maine Center for Research in STEM Education (Maine RiSE Center).

This position is one of three new faculty hires in discipline-based science education created through the Maine Physical Sciences Partnership (PSP), an NSF-funded, multi-million-dollar project of the Maine RiSE Center in collaboration with regional school units, to target the teaching and learning of physical sciences in grades 6-9 as well as the preparation of science teachers at the University of Maine. The project includes (1) the selection and implementation of coherent, research-supported curricula, (2) provision of ongoing intensive professional development for teachers, (3) research on the impact of the curricular implementation on student learning, teachers' content knowledge and pedagogical content knowledge, and (4) reform of university-level STEM instruction.

Candidates must have an earned doctorate in the discipline or a closely related field by the date of appointment, a strong research and publication record in discipline-based education research, and a demonstrated commitment to teaching.

Postdoctoral experience is strongly preferred but not required. Preference will be given to candidates who have experience working with middle school or high school teachers and/or students. Although research interests may lie in life or physical science fields, the candidate must have an adequate physical science background to contribute to the Maine PSP project.

The new faculty member will be expected to (1) engage in research, writing, and other scholarly activities that contribute to discipline-based education research, (2) teach undergraduate- and graduate-level courses, (3) supervise graduate and undergraduate research, (4) develop an externally-funded research program, (5) advise undergraduate and graduate students, and (6) participate in leadership for collaborative efforts in STEM-education with colleagues in the home academic unit, the Maine RiSE Center, the University, and other professional communities.

The position is an academic year appointment with preferred starting date no later than September 1, 2011. Opportunities for summer salary are available in conjunction with the Maine PSP project.

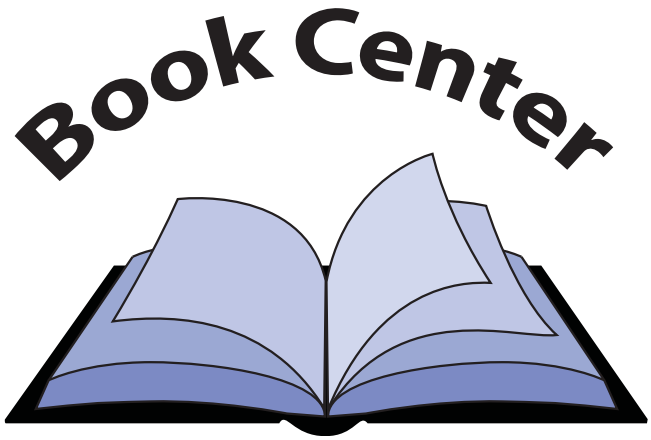
Applications and questions should be submitted by e-mail to PSP_NSFA_Faculty_Search@umit.maine.edu. Applications should include: a letter of interest, curriculum vitae, and the names and contact information for three references; a summary of research accomplishments and a research plan; a statement of teaching experience, philosophy, and interests; post-secondary level transcripts; and three letters of recommendation submitted directly by the reference

Review of applications will begin January 3, 2011, and continue until the position is filled. Incomplete applications cannot be considered. Appropriate background checks will be required.

More information about the position may be found at http://www.umaine.edu/center/positions/PSPfaculty and about the project at http://umaine.edu/mainepsp/. For more information about the Maine RiSE Center and the Maine Physical Sciences Partnership, please see http://www.umaine.edu/center.

The University of Maine is an Equal Employment Opportunity/Affirmative Action Employer and is committed to excellence through diversity in its faculty, staff and students. We strongly encourage all qualified individuals to apply.

The AGI Book Center:



In association with Amazon.com, AGI has updated the Earth Science World Book Center. This site enables visitors to come to a central location to search books available through Amazon.com related to the earth sciences. Search by keyword or category to find books of interest to you! Visit the book center http://www.earthscienceworld.org/books/ often to see new books that have recently been added to the collection.

UNIVERSITY OF TEXAS AT AUSTIN, JACKSON SCHOOL OF GEOSCIENCES
ASSISTANT PROFESSOR IN HYDROGEOLOGY

The University of Texas at Austin Department of Geological Sciences is hiring a tenure-track Assistant Professor in Hydrogeology. We seek candidates at the forefront of their science who will contribute to leadership in research and teaching. Hydrogeologists interested in chemical, physical, or biological processes, especially the interactions among these, are encouraged to apply.

As part of the Jackson School of Geosciences (www.jsg.utexas.edu), the Department (www.geo.utexas.edu) has 50 faculty and a community of research staff with a broad range of specialization and access to an outstanding collection of research facilities.

Applicants should submit a letter of application, curriculum vitae, statements of research and teaching interests, and contact information for at least three references. Submit a compiled electronic copy to [hydrogeology.search@jsg.utexas.edu] or send to: Hydrogeology Search Committee, Department of Geological Sciences C1100, University of Texas at Austin, Austin TX 78712. Review of applications will begin January 14, 2011 and continue until the position is filled.

Background check conducted on applicant selected. The University of Texas at Austin is an Affirmative Action/Equal Opportunity Employer.

Travels in Geology:

Antarctica and the Scotia Arc: Tectonics, Climate and Life

December 28, 2012 - January 20, 2013

Celebrate GSA's 125th anniversary with this expedition to one of Earth's most dynamic ecosystems, with a field and lecture program designed for both the professional scientist and anyone with an interest in the planet, its life and future.

Scientific Leader: Ian Dalziel, the University of Texas at Austin
Expedition Leader: Ted Cheeseman, Cheeseman's Ecology Safaris
Additional Lecturers and Field Leaders include Prof. Richard Alley, Pennsylvania State University, Prof. Rob Dunbar, Stanford University, and Prof. Rudolph Trouw, Federal University of Rio de Janeiro, Brazil

Prices from $10,990 to $22,990 per person inclusive of accomodation, meals, landings and lectures. Most cabins $15,990 per person, airfare not included. For information visit expedition Web site at www.cheesemans.com/jsg.

THE UNIVERSITY OF TEXAS AT AUSTIN
JACKSON
SCHOOL OF GEOSCIENCES

Sponsored by the University of Texas at Austin's Jackson School of Geosciences and the 125th Anniversary of the Geological Society of America, in cooperation with Cheeseman's Ecology Safaris

POST DOC AND PH.D. RESEARCH ASSISTANTSHIPS IN STRATIGRAPHY/ SEDIMENTOLOGY CHEVRON CENTER OF RESEARCH EXCELLENCE DEPARTMENT OF GEOLOGY AND GEOLOGICAL ENGINEERING COLORADO SCHOOL OF MINES

The Chevron Center of Research Excellence (CoRE), an innovative academic-industry relationship that promotes world-class research and education (http://www.ccore.mines.edu/), invites applications for Post Doc and Ph.D. Research Assistantships to begin in summer 2011. The successful applicants will participate in one of two funded projects: (1) quantitative outcrop characterization of deepwater distributive systems with an emphasis on 3D distribution of high reservoir quality fairways, or (2) quantitative outcrop characterization of a flood-plain dominated fluvial system with emphasis on connectivity and clustering of channel belts. These projects will involve extensive fieldwork in desolate, mountainous regions. Please contact Dr. David Pyles (dpyles@mines.edu) for more information about the research projects.

Ph.D. Research Assistantships: Applicants for fully funded Ph.D. Research Assistantships must have an M.S. in geology or related field at the time of appointment. Preference will be given to applicants with specialties in outcrop characterization. To apply, follow the on-line application process at http://www.mines.edu/graduate_academic. Please clarify your interest in working with Dr. David Pyles and CoRE in your Statement of Goals. Applications must be completed by January 31.

Post Doc Positions: Applicants for two-year Post Doc positions must have a Ph.D. in stratigraphy/ sedimentology at the time of appointment. Preference will be given to applicants with specialties in outcrop characterization. Experience with petroleum-related research studies and/or petroleum industry experience will be advantageous. The successful candidate must demonstrate strong interpersonal and communications abilities, provide a record of successful collaborative research experiences, have a solid publication record, and have a willingness to travel internationally. Applicants must send a letter of application, résumé, brief statement of professional goals with an emphasis on research objectives, and names and addresses of three professional references to: Ms. Charlie Rourke, Dept of Geology and Geological Engineering, Colorado School of Mines, 1516 Illinois Street, Golden, CO 80401 (crourke@mines.edu). Review of applications will begin no later than February 2011.

CSM is an EO/AA employer and is committed to enhancing the diversity of its campus community. Women, minorities, veterans, and persons with disabilities are encouraged to apply.

LOW TEMPERATURE GEOCHEMIST

The Geology Program of the Department of Geography and Geology at Sam Houston State University wishes to appoint at the Assistant Professor level a Low Temperature Geochemist with research interests in the broad field of either Aqueous Geochemistry (surface or groundwater) or Petroleum Geochemistry. The candidate will already hold the Ph.D. and will be in process of developing a strong research program with the likelihood of external funding. Primary teaching responsibilities will include an upper level course in Geochemistry to be taught each year; an upper level course related to the candidate's research field to be taught alternate years; plus coverage of sections of an introductory level Geological/Environmental Hazards course designed to attract majors. It would be particularly advantageous if the candidate could offer a general survey course in Hydrology (surface and groundwater) that includes modeling.

At the present time, Geology and Geography form a combined department with separate degree programs. The Geology curriculum is deliberately generalist but rigorous and we have success in placing our graduates in entry level positions in both environmental and petroleum-related fields, as well as in good graduate programs. It is probable that in the relatively near future Geology will become an independent department and will begin the process of building a focused graduate program of its own. We seek a geologist who would enjoy full participation from the start of this building process. This includes making funds available to the successful candidate to design and equip a research lab that will support the candidate's research agenda.

The start date for this position will be August 2011. A letter of interest, vita, e-mail addresses of referees and a statement of research interests should be e-mailed or mailed to Dr. Chris Baldwin (baldwin@shsu.edu) Department of Geography and Geology, Sam Houston State University, Box 2148, Huntsville, TX 77341-2148.

In addition, candidates should go online and apply at https://shsu.peopleadmin.com/.

Sam Houston State University is an Equal Employment Opportunity/Affirmative Action Plan Employer and Smoke/Drug-Free Workplace and a Member of The Texas State University System.

Association of Environmental & Engineering Geologists

1st North American Landslide Conference Proceedings

The 1st North American Landslide Conference provided geoscientists, engineers, planners, economists, program managers and other decision makers an exceptional opportunity to learn more about landslide hazards and their impact on North American society.

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Fax: 303-757-2969
E-mail: aeg@aegweb.org

TENURE-TRACK FACULTY POSITION AT UNIVERSITY OF TEXAS, ARLINGTON

The Department of Earth and Environmental Sciences (EES) at the University of Texas at Arlington anticipates expanding its tenure-track faculty with a new faculty appointment beginning as soon as August 2011. The position is offered at the assistant professor level, although especially strong/experienced candidates may be considered for appointment at higher rank.

UT Arlington, situated on a cloistered, urban campus in the Dallas-Ft. Worth metroplex, is a vital and diverse academic community of over 32,000 undergraduate and graduate students working together with faculty committed to outstanding teaching, research and scholarship. The State of Texas is expanding the research profile at UT Arlington and its other public research universities and has passed legislation to provide additional resources to achieve this goal. The EES department is home to a dynamic and interdisciplinary Ph.D. program as well as vibrant and growing undergraduate and masters degree programs. Additional information about the Department can be found at: http://www.uta.edu/ees/.

We seek a geoscientist whose research focus is at the interface of geophysics, geomorphology, and climate change to build upon existing strengths in EES. Example areas of expertise include, but are not limited to, dynamic topography and geomorphological modeling, basin evolution, innovative approaches to climate change with emphasis on regional to global climate system interactions, carbon sequestration, energy and the environment, and integrated studies of atmospheric/cryospheric/solid Earth system interactions.

The successful candidate is expected to establish a creative, independent, and externally funded research program, contribute to formal undergraduate and graduate teaching as well as supervise graduate student research. A Ph.D. in Earth Sciences or a related field is required at the time of appointment. Post-doctoral experience, and a strong publication and funding record, consistent with experience, are also desired. Women and minorities are strongly encouraged to apply.

Completed applications consist of: a curriculum vitae; statement of research vision; statement of teaching interests and evidence of teaching quality; names and contact information of at least five persons who would be willing to provide letters of recommendation.

Applications should be submitted by January 15, 2011, but applications will continue to be reviewed until the position is filled. This is a security sensitive position, and a criminal background check will be conducted on finalists. We prefer applications in Adobe PDF format submitted electronically to ees@uta.edu. Print applications may be mailed to: Chair, Search Committee, Department of Earth and Environmental Sciences, University of Texas at Arlington, 500 Yates St., Arlington, Texas 76019.

Effective August 1, 2011, the use of tobacco products (including cigarettes, cigars, pipes, smokeless tobacco and other tobacco products) by students, faculty, staff, and visitors are prohibited on all UT Arlington properties. UT Arlington does not discriminate on the basis of race, color, national origin, sex, religion, age, disability, veteran status or sexual orientation in employment or in the provision of services.

STRUCTURAL GEOLOGY

The Geology Department at Marshall University is seeking to fill a tenure-track position at the Assistant Professor level for the 2011-2012 academic year. A Ph.D. is required at the time of appointment. Primary responsibility is teaching undergraduate courses in structural geology, geologic mapping, and computer methods as well as introductory labs and lectures in physical geology. Additionally, ability to develop and teach an upper-level undergraduate class in geophysics is desirable. Normal teaching load is 12 hours per semester; however, release time equivalent to 3 contact hours per semester will be given in the first three years to establish an independently supported research program of high quality in the person's area of expertise. A field-oriented approach to teaching and research is desirable and commitment to undergraduate research is a must. The department also seeks candidates who will contribute to the University's general education curriculum with its emphasis on a common First-Year Seminar and core curriculum courses that enhance students' critical thinking, and the College's support of interdisciplinary programs of study. For more information, please visit www.marshall.edu/geology.

All candidates must send: 1) a current curriculum vitae; 2) statement of research plan: 3) statement of teaching philosophy; and 4) contact information for three references. Candidates must have official transcripts submitted (undergraduate and graduate) prior to interviewing on campus. Preferably, applications should be submitted electronically to niemann@marshall.edu as single PDF file, but may also be mailed to: Geology Search Committee, Department of Geology, One John Marshall Drive, Marshall University, and Huntington, WV 25755.

Review of applications will begin on 7 January 2011 and continue until the position is filled. Marshall University is the recipient of an NSF ADVANCE grant and the U. S. Labor Department's EVE Award for its Affirmative Action Employment Opportunity Programs. Potential applicants may visit http://www.marshall.edu/mu-advance/candidates.asp for additional information about Marshall University and Huntington.